VOL. III, Part III. 26th March, 1929.

# THE
# PROCEEDINGS
# OF THE
# ENTOMOLOGICAL SOCIETY
# OF
# LONDON

LONDON:
PUBLISHED BY THE SOCIETY AND
SOLD AT ITS ROOMS, 41, QUEEN'S GATE, S.W. 7

[*Price 6s. 0d.*]

# THE ENTOMOLOGICAL SOCIETY OF LONDON

Founded, 1833. Incorporated by Royal Charter, 1885.
PATRON—HIS MAJESTY THE KING.

## OFFICERS and COUNCIL for the SESSION 1928–1929.

J. E. Collin, *President.*

R. Adkin.
H. M. Edelsten.
R. W. Lloyd.
*Vice-Presidents.*

W. G. Sheldon, F.Z.S., *Treasurer.*

S. A. Neave, M.A., D.Sc., F.Z.S.
N. D. Riley, F.Z.S.
*Secretaries.*

H. J. Turner, *Librarian.*

*Council.*

P. A. Buxton, M.A.
E. A. Cockayne, M.A., M.D., F.R.C.P.
H. Eltringham, M.A., D.Sc.
Capt. A. F. Hemming, C.B.E., F.Z.S.
Prof. R. Stewart MacDougall, M.A., D.Sc., F.R.S.E.
G. A. K. Marshall, C.M.G., D.Sc., F.R.S.
J. W. Munro, D.Sc.
W. H. T. Tams.
A. E. Tonge.

*Finance and House Committee.*

R. W. Lloyd (Chairman).

R. Adkin.
G. T. Bethune-Baker, F.L.S., F.Z.S.
H. M. Edelsten.
H. Eltringham, M.A., D.Sc.
J. C. F. Fryer, M.A.
A. E. Tonge.

*Publication Committee.*

K. Jordan, Ph.D. (Chairman).

G. J. Arrow.
G. T. Bethune-Baker, F.L.S., F.Z.S.
H. Eltringham, M.A., D.Sc.
Prof. R. Stewart MacDougall, M.A., D.Sc., F.R.S.E.
Prof. E. B. Poulton, M.A., D.Sc., F.R.S.
W. H. T. Tams.

*Library Committee.*

E. A. Cockayne, M.A., M.D., F.R.C.P. (Chairman).

R. Adkin.
S. Edwards, F.L.S., F.Z.S.
K. Jordan, Ph.D.
E. E. Syms.
W. H. T. Tams.
H. Willoughby Ellis, F.Z.S.

The Executive Officers are *ex officio* members of all Committees.

## TRANSACTIONS AND PROCEEDINGS OF THE SOCIETY.

Some of the early volumes of the Society's Transactions are out of print, but those which are in stock can be obtained at reduced prices. Any single volume of the present series, 1868–1887, is sold at 10*s.* to Fellows. The volumes for 1868–1890, in sets of not less than five, as well as the five of the Third Series (1862–1867), can be obtained by Fellows at greatly reduced prices on application to the Librarian. The following is a price list of recently published parts of the Transactions—

1924.—Parts I, II, £1 12*s.* 0*d.* to Fellows, £1 4*s.* 0*d.*; Parts III, IV, £3 3*s.* 0*d.*, to Fellows, £2 7*s.* 3*d.*; Part V, 6*s.* 0*d.* to Fellows, 4*s.* 6*d.*

1925.—Parts I, II, £3 0*s.* 0*d.*; to Fellows, £2 5*s.* 0*d.*; Parts III, IV, £1 10*s.* 0*d.*, to Fellows, £1 2*s.* 6*d.*; Part V, 6*s.* 0*d.*, to Fellows, 4*s.* 6*d.*

1926.—Transactions, Vol. LXXIV: Part I, £3 0*s.* 0*d.*, to Fellows, £2 5*s.* 0*d.*; Part II, £3 10*s.* 0*d.*, to Fellows £2 12*s.* 6*d.*

Proceedings, Vol. I: Part I, 3*s.*, to Fellows, 2*s.* 6*d.*; Part II, 3*s.*, to Fellows, 2*s.* 6*d.*; Part III, 6*s.*, to Fellows, 4*s.* 6*d.*

1927.—Transactions, Vol. LXXV: Part I, £2 2*s.* 0*d.*, to Fellows, £1 11*s.* 6*d.*; Part II, £1 4*s.* 0*d.*, to Fellows, 18*s.*

Proceedings, Vol. II: Part I, 4*s.* 0*d.*, to Fellows, 3*s.* 0*d.*; Part II, 4*s.* 0*d.*, to Fellows, 3*s.* 0*d.*; Part III, 6*s.*, to Fellows, 4*s.* 6*d.*

1928.—Transactions, Vol. LXXVI: Part I, £2 2*s.* 0*d.*, to Fellows, £1 11*s.* 6*d.*; Part II, £2 16*s.* 0*d.*, to Fellows, £2 2*s.* 0*d.*

Proceedings, Vol. III: Part I, 4*s.* 0*d.*, to Fellows, 3*s.* 0*d.*; Part II, 4*s.* 0*d.*, to Fellows, 3*s.* 0*d.*; Part III, 6*s.*, to Fellows, 4*s.* 6*d.*

The 1893 Catalogue of the Library, with Supplement to 1900, is published at 10*s.*; to Fellows, 7*s.* The Supplement only, 4*s.* 6*d.*; to Fellows 3*s.*

# LIST OF FELLOWS

OF THE

# ENTOMOLOGICAL SOCIETY OF LONDON.

## HONORARY FELLOWS.

| Date of Election. | |
|---|---|
| *1900 | Aurivillius, Professor Christopher, *Stockholm.* |
| 1905 | Bolivar, Ignacio, *Museo nacional de Historia natural, Hipodromo,* 17, *Madrid.* |
| 1911 | Comstock, Prof. J. H., *Cornell University, Ithaca, New York, U.S.A.* |
| 1894 | Forel, Professor Auguste, M.D., *Yvorne, Canton de Vaud, Switzerland.* |
| 1925 | Gestro, Prof. R., *Direttore del Museo Civico di Storia Naturale, Genova, Italy.* |
| 1926 | Horvath, Dr. Geza, *Museum Nationale Hungaricum, Budapest, Hungary.* |
| 1915 ‡ | Howard, Dr. L. O., *Ex-Chief, Bureau of Entomology, U.S. Dept. of Agriculture, Washington, U.S.A.* |
| 1914 | Lameere, Professor A., 74, *rue Defarq, Bruxelles.* |
| 1918 | Marchal, Dr. Paul, President of the Entomological Society of France, 45, *rue de Verrières, Antony, Seine, France.* |
| *1928 | Reverdin, Dr. L. J., *Rive de Pregny, Route de Lausanne, Geneva, Switzerland.* |
| 1913 | Semenoff, Tian-Shanski A. P., *Vassili Ostrov,* 8 *lin.*, 39, *Petrograd, Russia.* |
| 1911 | Wasmann, Fr. Erich, S.J., *Valkenburg (L.) Ignatius Kolleg, Holland.* |

## SPECIAL LIFE FELLOWS.

| Date of Election. | |
|---|---|
| 1926 | (1891) Frohawk, F. W., *Essendene, Cavendish-road, Sutton, Surrey.* |
| 1923 | (1889) Johnson, The Rev. W. F., M.A., *Roxboro' Terrace, Rostrevor, Co. Down, Ireland.* |
| 1926 | (1890) Newstead, Prof. R., M.Sc., F.R.S., A.L.S., Hon. F.R.H.S., *St. Mary's Cottage,* 67, *Handbridge, Chester.* |

*

# FELLOWS.

(*The names of those who have not yet paid either the Entrance Fee or the first year's subscription are not included.*)

*Marked* * *died during the year* 1928.
*Marked* † *have compounded for their Annual Subscriptions.*
*Marked* ‡ *have been formally admitted into the Society* (*to Dec.* 1928).

Date of Election.

1913 ‡ Adams, B. G., 15, *Fernshaw-road, Chelsea*, S.W.
1902 ‡ Adkin, B. W., *Trenoweth, Hope-park, Bromley, Kent.*
1885 ‡ Adkin, Robert (V.-Pres., 1922, 1928; Council, 1901–2, 1911–13, 1921–3, 1927– ), *Hodeslea, Meads, Eastbourne.*
1921 Alexander, Prof. C. P., *Fernald Hall, Mass. Agricultural College, Amherst, Mass., U.S.A.*
1920 ‡ Altson, A. M., *The Mount, Windlesham, Surrey.*
1924 ‡ Amirthalingan, C., *Linkawasa,* 115, *G. Haltsdorf, Colombo, Ceylon.*
1911 Anderson, T. J., *Box* 323, *Nairobi, Kenya Colony.*
1919†‡Andrewes, Dr. C. H., 54, *Brent-way, Church End, Finchley*, N. 3.
1910†‡Andrewes, H. E. (Council, 1920–2), 8, *North-grove, Highgate*, N. 6.
1922 ‡ Andrewes, H. L., *c/o John Heelàs, Esq., Queen Anne's Mansions*, S.W.
1899 ‡ Andrews, Henry W., 6, *Footscray-road, Eltham*, S.E. 9.
1901 ‡ Anning, William, 15, *Arthur-street West*, E.C. 4.
1908 † Antram, Charles B., *The Atal Tea Co., Ltd., Siligmi, Darjeeling, India.*
1927 ‡ Armstrong, R. R., B.A., M.D., B.Ch , 3a, *Newsted-road, Lee*, S.E. 12.
1913 ‡ Armytage, Edward O., *c/o The Westminster Bank, Ltd.*, 25, *Sussex-place*, S.W. 7.
1907 ‡ Arnold, G., D.Sc., A.R.C.S., *Rhodesia Museum, Bulawayo, South Africa.*
1899†‡Arrow, G. J. (Council, 1905–7), 9, *Rossdale-road, Putney*, S.W. 15; and *British Museum* (*Natural History*), *Cromwell-road*, S.W. 7.
1922 Arthur, Francis, M.R.C.S., L.R.C.P., 395, *Bethnal Green-road*, E. 2.
1911 ‡ Ashby, E. B., 36, *Bulstrode-road, Hounslow, Middlesex.*
1907†‡Ashby, Sidney R., 37, *Hide-road, Headstone, Harrow.*
1925 Ashworth, J. H., *Walton Fold, Longridge, Preston, Lancs.*
1921 Atkinson, D. J., *Ataran Forest Division, Moulmein, Burma.*
1886 Atmore, E. A., 2a, *Queen-street, King's Lynn.*
1927 ‡ Attia, R., A.R.C.S., B.Sc., *Cotton Research Board, Giza, Egypt.*
1928 Aubertin, Miss D., *British Museum, Natural History Dept., Cromwell-road*, S.W. 7.
1928 Avinoff, A., *Carnegie Museum, Pittsburg, U.S.A.*
1914 Awati, P. R.

1922 ‡ Babault, G., 10, *rue Camille-Perier, Chaton, Seine-et-Oise, France.*
1904†‡Bagnall, Richard S., 13, *Searmouth-terrace, Edinburgh.*

1909 ‡ Bagwell-Purefoy, Capt. Edward, F.Z.S., *East Farleigh, Maidstone.*
1903–1913, 1924 :
‡ Baldock, G. R., *Oakburn Villa*, 467, *Hertford-road, Enfield Highway.*
1916 ‡ Balfour, Miss Alice, 4, *Carlton-gardens*, S.W., and *Whittingehame, Haddington, Scotland.*
1921 ‡ Balfour-Browne, Prof. W. A. F., F.R.S.E., F.Z.S. (Council, 1925–7), *Winscombe Court, Winscombe, Somerset.*
1912 ‡ Ballard, E., *Entomological Section, Ministry of Agriculture, Cairo, Egypt.*
1886 ‡ Bankes, Eustace R., M.A.
1890 Barclay, Francis H., F.G.S., *The Warren, Cromer.*
1925 Barnes, W., M.D., *Decatur, Illinois, U.S.A.*
1902 ‡ Barraud, P. J., *Central Research Institute, Kasauli, Punjab, India.*
1907 ‡ Bartlett, H. Frederick D., *Island of St. Helena, S. Atlantic.*
1908 Bayford, E. G., 2, *Rockingham-street, Barnsley.*
1912 ‡ Baynes, E. S. A., *Monkshatch Cottage, Compton, Guildford, Surrey.*
1896†‡Beare, Prof. Sir T. Hudson, B.Sc., F.R.S.E. (V.-Pres., 1910; Council, 1909–11, 1925–7), 10, *Regent-terrace, Edinburgh.*
1912 Bedford, Gerald, Entomologist to the Union of South Africa, *Veterinary Bacteriological Laboratory, Ondestepoort, Pretoria, Transvaal.*
1913 Bedford, Capt. H. W., *W.T.R. Laboratories, Khartoum, Sudan.*
1899 ‡ Bedwell, Ernest C. (V.-Pres., 1922; Council, 1917–19, 1922–4), *Bruggen, Brighton-road, Coulsdon, Surrey.*
1920 ‡ Beeson, C. F. C., *Indian Forest Service, Forest Research Institute, Dehra Dun, U.P., India.*
1927 ‡ Bell, J. H., *Maiden Lodge, Caterham Valley, Surrey.*
1904 Bengtsson, Simon, Ph.D., Lecturer, *University of Lund, Sweden ;* Curator, Entomological Collection of the University.
1915 Benham, Prof. W. B., M.A., D.Sc., F.R.S., *University of Otago, Dunedin, New Zealand.*
1925 ‡ Benson, R. B., B.A., *Boldre House, Berkhamsted, Herts.*
1906 ‡ Bentall, E. E., *The Grove, Witham, Essex.*
1913 ‡ Best-Gardner, Charles C., *Rookwood, Neath, Glamorgan.*
1885 ‡ Bethune-Baker, George T., F.L.S., F.Z.S. (Pres., 1913–14; V.-Pres., 1910–11, 1915; Council, 1895, 1910–15, 1919–21), 9, *Eversfield-road, Eastbourne.*
1891 ‡ Blaber, W. H., F.L.S., 34, *Cromwell-road, Hove, Brighton.*
1904 ‡ Blair, Kenneth G., B.Sc. (Council, 1918–20), *Claremont*, 120, *Sunningfields-road, Hendon*, N.W. 4.
1904 ‡ Bliss, M. F., M.C., M.R.C.S., L.R.C.P., *Branston, nr. Rugby.*
1903 Bogue, W. A., 34, *Handen-road, Lee*, S.E. 12.
1921 ‡ Bolton-King, E., *Christ Church, Oxford.*
1902 ‡ Bostock, E. D., *Oulton Cross, Stone, Staffs.*
1921 Bouck, Baron J., *Springfield, South Godstone, Surrey.*
1927 Bowhill, J. W., *Morelands, Grange-loan, Edinburgh.*
1894 † Bowles, E. Augustus, M.A., *Myddelton House, Waltham Cross.*
1912 † Bowring, C. Talbot, *St. Francis, Benfield-way, Portslade, nr. Hove, Sussex.*

1921 ‡ Box, H. E., *Agricultural Experimental Station, Tucuman, Argentina.*
1919 ‡ Box, L. A., 35, *Great James-street*, W.C. 1.
1910 Boyd, A. Whitworth, *Frandley House, nr. Northwich.*
1920 Boyd, Major J. E. M., M.C., *The British Military Hospital, Ferozepore, Punjab, India.*
1905 Bracken, Charles W., B.A., 8, *De la Hay Villas, Plymouth.*
1919 ‡ Bradley, Prof. J. Chester, M.Sc., Professor of Entomology and Curator of Invertebrate Zoology, *Cornell University, Ithaca, New York, U.S.A.*
1928 Bradshaw, Major C. P., *Cavalry Club, Piccadilly, London*, W. 1.
1920 ‡ Brenchley, Dr. Winifred. E., D.Sc., F.L.S., *Rothamsted Experimental Station, Harpenden, Herts.*
1894 ‡ Bright, P. M., *Colebrook Grange*, 58, *Christchurch-road, Bournemouth.*
1924 ‡ Brindley, Mrs. M. D., 25, *Madingley-road, Cambridge.*
1923 Britten, G., *Riwaka, Nelson, N.Z.*
1909 ‡ Britten, Harry, 22, *Birch-grove, Levenshulme, Manchester.*
1925 ‡ Brooks, C. J., 11, *Carlton Mansions, West End-lane*, N.W. 6.
1902 ‡ Broughton, Brig.-Gen. T. D., R.E., *Houghton Green, Playden, Rye, Sussex.*
1919 Brown, J. M., B.Sc., F.L.S., 176, *Carterknowle-road, Millhouses, Sheffield.*
1910 Browne, H. B., M.A., *Kenilworth, Scatcherd-lane, Morley, Yorks.*
1909 Bryant, Gilbert E., 163, *Gloucester-terrace, Hyde Park*, W. 2.
1898 † Buchan-Hepburn, Sir Archibald, Bart., J.P., D.L., *Smeaton-Hepburn, Prestonkirk.*
1919 ‡ Buckhurst, A. S., *Pathological Laboratory, Milton-road, Harpenden, Herts.*
1925 ‡ Bull, G. V., B.A., M.B., *Whitegables, Sandhurst, Kent.*
1907 Bulleid, Arthur, F.S.A., *Dimboro, Midsomer Norton, Somersetshire.*
1922 Burns, A. N., Sugar Experiment Station, *Mackay, N. Queensland, Australia.*
1896†‡Burr, Malcolm, D.Sc., F.G.S., A.R.S.M. (V.-Pres., 1912; Council, 1903–4, 1910–12), *United Univ. Club, Pall Mall East*, S.W. 1; *Trans. to:— Moscow, Petrovskaia Agricultural Academy, Prof. V. F. Boldyrev.*
1920 Burras, A. E., 3, *Connaught-road, North End, Portsmouth.*
1909 ‡ Burrows, The Rev. C. R. N., *The Vicarage, Mucking, Stanford-le-Hope, Essex.*
1922 ‡ Bushby, L. C., 11, *Park-grove, Bromley, Kent.*
1920 ‡ Bushell, Capt. H. S., *Ravensholt, Harrow-on-the-Hill.*
1922 Butler, A. E., *c/o Westminster Bank, Ltd., Clevedon, Somerset.*
1914 † Butterfield, R., Curator, *Corporation Museum, Keighley, Yorks.*
1912†‡Buxton, P. A., M.A. (Council, 1926–28), *Grit Howe, Gerrard's Cross, Bucks.*

1902 ‡ Cameron, Malcolm, M.B., R.N. (Council, 1919–20), 15, *Teesdale-road, Leytonstone*, E. 11.
1913 ‡ Cameron, W. P. L., *Gezira Research Farm, Wad Medani, Blue Nile Province, Sudan.*
1923 ‡ Campbell-Taylor, J. E., *Barclay's Bank House, Pembroke Dock, S. Wales.*
1910 Carlier, E. Wace, M.D., F.R.S.E., *Morningside, Granville-road, Dorridge*, and *The University, Birmingham.*
1924 ‡ Carlier, S. E. Wace, *Morningside, Dorridge, Warwickshire.*
*1892 ‡ Carpenter, The Hon. Mrs. Beatrice, 22, *Grosvenor-road*, S.W. 1.

1910 †‡ Carpenter, G. D. Hale, D.M., M.B.E. (*East African Medical Service*), *Entebbe, Uganda.*
1895 ‡ Carpenter, George H., D.Sc., M.R.I.A., *The Manchester Museum, The University of Manchester.*
1915 Carr, Professor J. W., M.A., F.L.S., F.G.S., Hon. F.R.H.S., Professor of Biology, *University College*, and Director Emeritus of the Public Natural History Museum, *Wollaton Hall, Nottingham.*
1912 Carter, H. F., *The Office of Medical Entomologist, Torrington-square, Colombo, Ceylon.*
1906 ‡ Carter, H. J., B.A., *Garrawillah, Kintore-street, Wahroonga, Sydney, N.S.W.*
1921 Cassels, O. C., D.F.C., N.D.A., *Estancia Las Petacos San Yorge, F.C.C.A., Argentine.*
1921 Castle, Miss Amy, *Dominion Museum, Wellington, New Zealand.*
1921 ‡ Cator, Douglas, 13, *Westminster-mansions, Gt. Smith-street,* S.W. 1.
1889 †‡ Cave, Charles J. P.
1920 ‡ le Cerf, F., Curator of Lepidoptera in the Paris Museum, 13, *rue Guy de la Brosse, Paris.*
1900 Chamberlain, the Rt. Hon. Neville, *Westbourne, Edgbaston, Birmingham.*
1914 ‡ Champion, H. G., M.A., *Forest Research Institute, Dehra Dun, U.P., India.*
1913 Chasen, F. N., M.B.O.U., *Raffles Museum, Singapore.*
1919 Chatterjee, N. C., B.Sc., *Forest Research Institute, Dehra Dun, U.P., India.*
1923 Chatterjee, S. N., *Forest Research Inst., Dehra Dun, U.P., India.*
1897 ‡ Chawner, Miss Ethel F., *Thatched Holme, Wargrave, Berks.*
1913 ‡ Cheavin, W. H. S., F.C.S., F.R.M.S., 19, *Rosendale-road, W. Dulwich,* S.E. 21.
1919 Cheesman, Miss L. Evelyn, *c/o The British Resident, Civil Commissioner, Vila, Efate, New Hebrides.*
1920 ‡ Cheetham, C. A., *Stone Bridge Mills, Wortley, Leeds.*
1889 Christy, William M., M.A., F.L.S., *Watergate, Emsworth.*
1909 Clark, Lt.-Col. C. Turner, F.Z.S., *The Hutch, Shirley Warren, Southampton.*
1923 Clarke, C. E., 39, *Princes-street, Dunedin, N.Z.*
1914 Cleare, L. D., Jr., *Dept. of Science and Agriculture, Georgetown, British Guiana.*
1922 Clutten, Wm. George, 136, *Coal Clough-lane, Burnley.*
1908 Clutterbuck, Charles G., *Heathside,* 23, *Heathville-road, Gloucester.*
1908 Clutterbuck, Sir Peter, *Pensbury, Walton-on-Thames.*
1904 ‡ Cockayne, E. A., M.A., M.D., F.R.C.P. (Council, 1915–17, 1926–28), 116, *Westbourne-terrace,* W. 2.
1920 Cockcroft, T., 111, *Owen-street, Wellington South, New Zealand.*
1917 ‡ Cockerell, Prof. T. D. A., *University of Colorado, Boulder, Colorado, U.S.A.*
1917 ‡ Cocks, Frederick, 42, *Crown-street, Reading.*
1927 Coe, R. L., 40, *Malden Hill-gardens, New Maldon, Surrey.*
1914 Coleman, Leslie C., Dept. of Agriculture, *Bangalore, Mysore, India.*
1922 ‡ Collenette, C. L., *Gothic Lodge, Woodford Green, Essex.*
1899 ‡ Collin, James E., President (V.-Pres., 1913, 1923; Council, 1904–6, 1913–15, 1923–5), *Rayland, Newmarket.*
1918 Comstock, Dr. J. A., *c/o Los Angeles Museum, Exposition Park, Los Angeles, California, U.S.A.*

1924 ‡ Cooke, Brig.-Gen. B. H., C.M.G., C.B.E., D.S.O., *Inniscrone, Datchet, Bucks.*
1926 Cooper, Mrs. J. Omer-, 23, *Leazes-terrace, Newcastle-on-Tyne.*
1921 Coote, F. D., 71, *Fenchurch-street,* E.C. 3.
1924 Corbett, G. H., 576, *Gardens Hill, Kuala Lumpur, F.M.S.*
1916 Cornford, The Rev. Bruce, 43, *Havelock-road, Portsmouth.*
1921 ‡ Corporaal, J. B., *Zoological Museum, Plantage Middenlaan, Amsterdam.*
1924 Cott, H. B., 9, *Old Orchard-road, Eastbourne.*
1923 Cottam, R., *Entomological Dept., Wellcome Tropical Research Laboratory, Khartoum, Sudan.*
1920 ‡ Cotterell, G. S., *Newlyn, Gerrard's Cross, Bucks.*
1928 Covell, Major G., I.M.S., M.D., *Central Malaria Bureau, Kasauli, India.*
1913 Coward, T. A., F.Z.S., 36, *George-street, Manchester.*
1923 ‡ Cox, L. G., 9, *Chichester-terrace, Brighton.*
1920 ‡ Crabbe, E., 52, *Sarsfield-road, Balham,* S.W. 12.
1895 Crabtree, B. H., *Holly Bank, Alderley Edge, Cheshire.*
1919 Crampton, Prof. G. Chester, *Massachusetts Agricultural College, Amherst, Mass., U.S.A.*
1922 ‡ Crawford, Wm. Monod, B.A., *Orissa, Marlborough-park, Belfast.*
1928 Crewdson, R. C. R., *The Grange, Delamere, Northwich, Cheshire.*
1907 ‡ Croft, E. O., M.D., *Wyndley, Harrowby-crescent, Far Headingley, Leeds.*
1919 ‡ Cumming, B. D., *Whistman's Wood, West Clandon, Surrey.*
1927 Cunliffe, N., *The School of Rural Economy, University of Oxford.*
1908 Curtis, W. P., *Drake North, Sandringham-road, Parkstone, Dorset.*

1928 Dampf, Dr. A., Chief Government Entomologist, *Avenida Insurgentes,* 171, *Mexico, D.F., Mexico.*
1911 Davey, H. W., *Cobungua,* 19, *Moama-road, E. Malvern, Australia.*
1913 ‡ Davidson, James, D.Sc., F.L.S. (Council, 1922–4), *Institute of Plant Pathology, Rothamsted, Harpenden, Herts.*
1912 Davis, F. L., J.P., M.R.C.S., L.R.C.P., 1, *Hill View, Charmouth, Dorset.*
*1910 ‡ Dawson, W. G., *Beechwood,* 11a, *Oaklands-road, Bromley, Kent.*
1903 Day, F. H., 26, *Currock-terrace, Carlisle.*
1898 Day, G. O., *Sahlatston, Duncan's Station, Vancouver Island, British Columbia.*
1923 Dean, J. D., *Colin, Llandaff, Glam.*
1923 Dewar, D. A., M.B., C.M., *Altyre House, Stanley, S.O., Co. Durham.*
1917 ‡ Dicksee, Arthur, 24, *Lyford-road, Wandsworth Common,* S.W. 18.
1925 Digges, Rev. J. G., M.A., *Glooncahir, Mohill, Co. Leitrim, N. Ireland.*
1887 ‡ Dixey, Frederick Augustus, M.A., M.D., F.R.S., Fellow and Bursar of Wadham College (Pres., 1909–10; V.-Pres., 1904–5, 1911; Council, 1895, 1904–6), *Wadham College, Oxford.*
1921 Dobson, H. W., 14, *Finkle-street, Kendal.*
1909 † Dobson, Thomas, 33, *The Park, Sharples, Bolton.*
1905 Dodd, Frederick P., *Kuranda, viâ Cairns, Queensland.*
1912 ‡ Doig, Major K. A. C., R.A.M.C., M.R.C.S., L.R.C.P., *Karundus Estate, P.O. Nyeri, Kenya Colony.*
1891 ‡ Donisthorpe, Horace St. John K., F.Z.S. (V.-Pres., 1911; Council, 1899–1901, 1910–12), *Durandesthorpe,* 19, *Hazelwell-road, Putney,* S.W. 15.
1913 ‡ Dow, Walter James, 5, *Great College-street, Westminster,* S.W. 1.

1910 Downes-Shaw, Rev. Archibald, *Scotton Rectory, Gainsborough.*
1927 Droste, A. E., *Casilla,* 1752, *Valparaiso, Chile, S. America.*
1924 ‡ Druitt, Alan, *Willow Lodge, Christchurch, Hants.*
*1900 Drury, W. D., *Stepaside,* 50, *St. Helen's Park-road, Hastings.*
1921 du Porte, E. M., *Macdonald College, Quebec, Canada.*
1894 Dudgeon, G. C., C.B.E., 182, *Cromwell-road,* S.W. 7.
1913 Duffield, C. A. W., *Pickersden, Brook Ashford, Kent.*
1906 ‡ Dukinfield Jones, E., *Box* 1831, *Mountain-street, Glendale, California, U.S.A.*
*1883 ‡ Durrant, John Hartley (V.-Pres., 1912–13; Council, 1911–13, 1919–21), 20, *Burstock-road, Putney,* S.W. 15; and *British Museum (Natural History), Cromwell-road, S. Kensington,* S.W. 7.
1924 Dutt, A., B.A., B.Sc., *Asst. Entomologist, Rustam, Dept. of Agriculture, Baghdad (Iraq).*

1910 ‡ Eales-White, Capt. J. C., F.Z.S., 88, *Mount Ararat-road, Richmond, Surrey.*
1912 ‡ Earl, Herbert L., M.A., *Vanessa, Rawlyn-road, Torquay.*
1927 Earle, E., 16, *Addison-gardens,* W. 14.
1924 Eastham, L., M.Sc., *Zoological Laboratories, The Museum, Cambridge.*
1890–1914, 1922:
Eastwood, John E., *Middleham, Ringmer, Lewes, Sussex.*
1865 ‡ Eaton, The Rev. Alfred Edwin, M.A. (Council, 1877–9), *Richmond Villa, Northam S.O., N. Devon.*
1902 ‡ Edelsten, H. M. (Council, 1926–28), *Hillside, Lingfield, Sussex.*
1927 Edmonds, T. H., *Strathmore, Totnes, Devon.*
1919 Edwardes, Rev. Tickner, *Folkington Rectory, Polegate, Sussex.*
1911 ‡ Edwards, F. W., 56, *Norton-road, Letchworth.*
*1886 Edwards, James, *Colesborne S.O., Glos.*
1884 ‡ Edwards, Stanley, F.L.S., F.Z.S. (Council, 1912–14), 15, *St. Germans-place, Blackheath,* S.E. 3.
1913 Edwards, W. H., *Natural History Dept., The Museum, Birmingham.*
1924 ‡ Edwards, W. H., *Dept. of Agriculture, Reduit, Mauritius.*
1916 ‡ Efflatoun, Bey Hassan, Professor of Entomology, *Egyptian University, Cairo, Egypt.*
1927 Ellaston-Wright, F. R., M.D., *Braunton, N. Devon.*
1900 ‡ Elliott, E. A., 41, *Chapel Park-road, St. Leonards-on-Sea.*
1924 Ellis, E. T., F.R.H.S., *Westwood, Ecclesall, Sheffield.*
1900 ‡ Ellis, H. Willoughby, F.Z.S. (Vice-Pres., 1924; Council, 1916–18, 1922–4), *Speldhurst Close, Sevenoaks, Kent,* and *Junior Carlton Club, Pall Mall,* S.W. 1.
1919 Elston, Albert H., "*Llandyssill,*" *Aldgate, South Australia.*
1925 Elton, C. S., B.A., *Dept. of Comp. Anatomy, University Museum, Oxford.*
1903 ‡ Eltringham, Harry, M.A., D.Sc., F.Z.S. (Secretary, 1922–5; V.-Pres., 1914, 1918, 1926; Council, 1913–15, 1918–20, 1926–28), *Woodhouse, Stroud, Gloucestershire,* and *Hope Department, University Museum, Oxford.*
1927 Embry, B., *St. Bartholomew's Vicarage, Dover.*

1927 Esaki, T., *College of Agriculture, Kyushu Imp. Univ., Fukuoka, Japan.*
1908 Eustace, E. M., M.A., *Wellington College, Berks.*
1926 Evans, Col. G. H., C.I.E., C.B.E., *c/o National Bank of India, Ltd.,* 26, *Bishopsgate,* E.C. 2.
1922 Evans, H. Silvester, M.R.C.S., *Lomaloma, Fiji.*
1919 ‡ Evans, Brigadier W. H., C.I.E., D.S.O., *c/o Lloyd's Bank* (*Cox & Co., R.E. Dept.*), 6, *Pall Mall,* S.W. 1.
1928 Evans, J. W., *Farnham House Laboratory, Farnham Royal, Bucks.*

1919 ‡ Falconer, William, 12, *King-street., Waterloo, Liverpool.*
1927 Falkner, H. J., *Gyfu, Barton, Torquay.*
1924 ‡ Farmiloe, H. J. C., *Purley Park, nr. Reading, Berks.*
1925 Fassnidge, W., 47, *Tennyson-road, Southampton.*
1926 Faz, Alfredo, *Calle Teatinos,* 384, *Santiago, Chili.*
1907 Feather, Walter, *Cross Hills, nr. Keighley, Yorks.*
1900 ‡ Feltham, H. L. L., *Mercantile Buildings, Summonds-street, Johannesburg, Transvaal.*
1920 Fenton, E. W., M.A., B.Sc., *Edinburgh and East of Scotland Coll. of Agriculture,* 13, *George-square, Edinburgh.*
1918 ‡ Ferguson, A., 433, *Kilmarnock-road, Newlands, Glasgow.*
1922 Fernald, H. T., Ph.D., *Mass. Agricultural Coll., Amherst, Mass., U.S.A.*
1898 ‡ Fletcher, Prof. T. Bainbrigge, R.N., *Agricultural Research Institute, Pusa, Bihar, India.*
1883 † Fletcher, William Holland B., M.A., *Aldwick Manor, Bognor.*
1905 Floersheim, Cecil, 16, *Kensington Court Mansions,* S.W. 8.
1922 Flower, Miss A. B., *Furzelee, Hale, nr. Salisbury.*
1928 Forbes, Wyndham, D.S.O., R.N., Commander, *Naval and Military Club,* 94, *Piccadilly,* W. 2.
1924 ‡ Ford, E. B., *Wadham College, Oxford.*
1914 Fordham, W. J., M.R.C.S., L.R.C.P., D.Ph., *The Garth, Barmby Moor, York.*
1913 Foster, Arthur H., M.R.C.S., L.R.C.P.(Eng.), M.B.O.U., 13, *Tilehouse-street, Hitchin, Herts.*
1898 ‡ Fountaine, Miss Margaret E., *The Studio,* 100a, *Fellows-road, Hampstead,* N.W. 3.
*1921 Fox, C. L., 1621, *Vallejo-street, San Francisco, California, U.S.A.*
1920 ‡ Fox-Wilson, G., *Entomological Dept., R.H.S. Laboratory, Wisley, Ripley, Surrey.*
1928 Francis, H. O., 5, *East Barnet-road, New Barnet, Herts.*
1908 Fraser, F. C., Lt.-Col., M.D., I.M.S., *c/o Bombay Nat. Hist. Soc.,* 6, *Apollo-street, Bombay, India.*
1888 ‡ Fremlin, H. Stuart, M.R.C.S., L.R.C.P., *Govt. Lymph Establishment, Colindale-avenue, The Hyde,* N.W. 9.
1910 ‡ Frisby, G. E., 29, *Darnley-road, Gravesend.*
1907 ‡ Fryer, J. C. F., M.A. (Council, 1916–18, 1925–7), *Milton-road, Harpenden, Herts.*
1876 ‡ Fuller, The Rev. Alfred, M.A., *The Lodge,* 7, *Sydenham-hill, Sydenham,* S.E. 26.

1887 ‡ Gahan, Charles Joseph, M.A., D.Sc. (Pres., 1917–18; V.-Pres., 1916, 1919; Sec., 1899–1900; Council, 1893–5, 1901, 1914–16, 1919), *The Mount, Aylsham, Norfolk.*
1920 Gardner, J. C. M., *Forest Research Inst., Dehra Dun, U.P., India.*
1901†‡Gardner, Willoughby, D.Sc. F.L.S., F.S.A., *Y Berlfa, Deganwy, N. Wales.*
1923 Garrett, F. C., *West Croft, Hexham.*
1922 ‡ Gater, B. A. R., M.A., D.I.C., F.R.M.S., *Institute for Medical Research, Kuala Lumpur, F.M.S.*
1920 Gauntlett, H. L., M.R.C.S., L.R.C.P., A.K.C., 37, *Howard's-lane, Putney,* S.W. 15.
1919 ‡ Gedye, A. F. J., *P.O. Box* 216, *Nairobi, Kenya Colony.*
1923 Gee, G. F., *Abbotsford, Cuddington, nr. Northwich, Cheshire.*
1922 Ghosh, C. C., B.A., *Agricultural College, Mandalay, Burma, India.*
1915 ‡ Gibson, Arthur, *Dominion Entomologist, Dept. of Agriculture, Ottawa, Canada.*
1908 Giffard, Walter, M., *P.O. Box* 300, *Honolulu, Hawaii.*
1904 ‡ Gilliat, Francis T., B.A., 25, *Manor-road, Folkestone.*
1925 Gilles, W. S., F.I.C., F.C.S., *The Cottage, Bocking, Braintree, Essex.*
1919 ‡ Gimingham, C. T., O.B.E., F.I.C., *Ministry of Agriculture, Pathological Laboratory, Milton-road, Harpenden, Herts.*
1921 Glick, P. A., *U.S. Dept. of Agriculture, Tallulah, Louisiana, U.S.A.*
1914 ‡ Godfrey, E. J., *Education Dept., Bangkok, Siam.*
1924 Golding, F. D., *Moor Plantation, Ibadan, S. Provinces, Nigeria.*
1920 ‡ Goodban, B. S., *Watersmeet, West-street, Ewell, Epsom, Surrey.*
1927 Goodman, A. de B., *"Hatchgate," Massetts-road, Horley, Surrey.*
*1921 ‡ Goodman, O. R., *"Hatchgate," Massetts-road, Horley, Surrey.*
1904 Goodwin, Edward, *Canon Court, Wateringbury, Kent.*
1925 ‡ Gordon, D. J., B.A., *Craigellachie House, Strathpeffer, N.B.*
1898 ‡ Gordon, J. G. McH., *Corsemalzie, Whauphill S.O., Wigtownshire.*
1898 ‡ Gordon, R. S. G. McH., *Drumblair, Inverness.*
*1909 Gowdey, Carlton C., B.Sc., *Govt. Laboratory, Hope, Kingston P.O., Jamaica.*
1927 Grandi, Prof. Dr. Guido, *R. Instituto Superiore Agrario, Bologna, Italy.*
1924 Grant, J. H., *Cole Dale View, Coleshill-road, Ward End, Birmingham.*
1914 Graveley, F. H., *Museum House, Egmore, Madras.*
1911 ‡ Graves, P. P., 5, *Hereford-square,* S.W. 7.
1891†‡Green, E. Ernest, F.Z.S. (Pres., 1923-4; V.-Pres., 1915, 1925; Council, 1914–16, 1925), *Way's End, Beech-avenue, Camberley.*
1893 † Greenwood, H. P., F.L.S.
1921 Greenwood, W. F. N., *C.S.R. Co., Lautoka, Fiji.*
1928 ‡ Grensted, Rev. L. W., M.A., B.D., *University College, Oxford.*
1926 Grey, Mrs. O., 90, *Charing Cross-road,* W.C. 2.
1894 ‡ Grimshaw, Percy H., *Royal Scottish Museum, Edinburgh.*
1905 Grist, Charles J., *The Croft, Carol Green, Berkswill, Coventry.*
1920 ‡ Grosvenor, T. H. L., *Springvale, Linkfield-lane, Redhill, Surrey.*
1927 Gunder, J. D., 849, *Linda Vista Avenue, Pasadena, California, U.S.A.*
1920 ‡ Gunton, Major H. C., 1, *The Highway, Gerrard's Cross, Bucks.*
1906 Gurney, Gerard H., *Keswick Hall, Norwich.*

1910 Gurney, William B., Govt. Entomologist, *Department of Agriculture, Sydney, Australia.*

1912 Hacker, Henry, *Queensland Museum, Brisbane, Queensland.*
1919 Hadwen, Dr. Seymour, D.Vet.Sci., *Univ. of Saskatchewan, Saskatoon, Canada.*
1925 ‡ Haig-Thomas, P., *The Grange, Goring-on-Thames.*
1906 ‡ Hall, Arthur, "*Bowness,*" *Brighton-road, Purley, Surrey.*
1885 ‡ Hall, T. W., *Wood Grange, Shire-lane, Chorley Wood, Herts.*
1921 ‡ Hall, W. J., *The B.S.A. Co's Citrus Estate, Mazoe, Southern Rhodesia.*
1912 ‡ Hallett, H. M., 64, *Westbourne-road, Penarth, Glamorganshire.*
1923 ‡ Halliwell, A. C., *St. Thomas's Hospital, Westminster,* S.W.
1915 Hamm, A. H., F.L.S., 22, *Southfield-road, Oxford.*
1928 ‡ Hammond, C. O., 56, *Boreham-road, Lordship-lane, Wood Green,* N. 22.
1891 ‡ Hanbury, Frederick J., F.L.S., *Brockhurst, E. Grinstead.*
1923 ‡ Hancock, G. L. R., *Dept. of Agriculture, Box* 5, *Kampala, Uganda ; Trans. to :—Byfleet Rectory, Surrey.*
1923 Handley, G., 54, *All Saints'-road, King's Heath, Birmingham.*
1903 ‡ Hare, E. J., 4, *New-square, Lincoln's Inn,* W.C. 2.
1920 ‡ Hargreaves, E., *Lands and Forest Dept., Freetown, Sierra Leone.*
1920 Hargreaves, H., *The Lindens, Kennington, Ashford, Kent.*
1926 Harmsworth, H. A. B., 3, *Marlborough Gate, Hyde Park,* W. 2.
1926 Harris, R. H., *P.O. Empangeni, Zululand, S. Africa.*
1928 Harris, W. V., *Dept. of Agriculture, Morogoro, Tanganyika Territory.*
1925 Harukawa, C., *Ohara Institute, Kurashiki, Okayama-Ken, Japan.*
1910 ‡ Harwood, Philip, *c/o Westminster Bank, Ltd.,* 92, *Wimborne-road, Winton, Bournemouth.*
1926 Hatch, Melville H., *Dept. of Zoology, University of Washington, Seattle, Washington, U.S.A.*
1919 ‡ Hawker-Smith, W., *Benares, Wormley, Godalming, Surrey.*
1927 Hawkins, C. N., 23, *Dalebury-road, Upper Tooting,* S.W. 17.
1913†‡Hawkshaw, Oliver, *Holly Combe, Liphook, Hants.*
1924 Hayward, A. R., *Misterton, Somerset.*
1919 ‡ Hayward, H. C., M.A., *Repton, Derby.*
1921 ‡ Hayward, Capt. K. J., *The Vicarage, Bruton, Somerset.*
1910 ‡ Hedges, Alfred V., *Milton House, Milton Ernest, Beds.*
1919 ‡ Hemming, Capt. A. F., C.B.E., F.Z.S. (Council, 1928– ), 29, *West Cromwell-road,* S.W. 5.
1910 Henderson, J., *Clifton, Ashbourne, Derbyshire.*
1918 Herrod-Hempsall, J., *Orchard House, Stockingstone-road, Luton, Beds.*
1903 Herrod-Hempsall, W., *W.B.C., Sternthorpe, Stockingstone-road, Old Bedford-road, Luton, Beds.*
1925 Hesse, Dr. A. T., *South African Museum, Cape Town, S. Africa.*
1913 Hewitt, John, B.A., Director, *Albany Museum, Grahamstown, S. Africa.*
1923 Hicks, J. B., 99, *Barkston-gardens, S. Kensington,* S.W.
1922 ‡ Higgins, L. G., M.A., F.R.C.S., *Linkwood, Woking, Surrey.*
1924 Hingston, Major R. W. G., *c/o Lloyds Bank, Ltd.,* 6, *Pall Mall,* S.W. 1.
*1914 Hodge, The Rev. Canon E. Grose, *Halfacre, Heathside Park-road, Woking.*

1912 Hodge, Harold, 99, *Highbury-place*, N. 5.
1922 Hogarth, A. Moore, 143, *Golders Green-road*, N.W. 11.
1925 Holdaway, F. G., *Farnham House Laboratory, Farnham Royal, Bucks.*
1910 Holford, H. O., *Elstead Lodge, Goldalming, Surrey.*
1887 Holland, The Rev. W. J., D.D., Ph.D., Director Emeritus, *Carnegie Museum, Pittsburgh, Penn, U.S.A.*
1898 ‡ Holman-Hunt, C. B., *Great Toller, nr. Dorchester, Dorset.*
1922 ‡ Hopkins, G. H. E., *Box* 141, *Nairobi, Kenya, East Africa.*
1921 Hopper, L. B., *Manor House, Penryn, Cornwall.*
1919 de Horrack-Fournier, Mme., 90, *Boulevard Malesherbes, Paris,* and *Château de Voisins, Louveciennes, Seine-et-Oise, France.*
1928 Hosny, M., Entomological Secretary, *Ministry of Agriculture, Cairo, Egypt.*
*1907 † Howard, C. W., *Professor of Animal Biology, Wheaton College, Wheaton, Ill., U.S.A.*
1927 ‡ Hucklesby, F. G., *Student Movement House*, 32, *Russell-square*, W.C. 1.
1888 Hudson, G. V., *Hill View, Karori, Wellington, New Zealand.*
1907 Hughes, C. N., 78, *Harley House*, N.W. 1.
1921 Hunt, Rev. T. Wesley, *Wesleyan Methodist Church of S. Africa, Box* 36, *Heilbron, O.F.S., S. Africa.*
1917 Hunter, David, M.A., M.B., *The Coppice, Nottingham.*
1922 ‡ Hutchinson, G. E., *c/o The Master, Pembroke College, Cambridge.*
1923 Hutchinson, J. H., M.A., *Holly House, Littlebourne, nr. Canterbury.*

1897 ‡ Image, Prof. Selwyn, M.A. (Council, 1909–11), 78, *Parkhurst-road, Camden-road*, N. 7.
1912†‡Imms, A. D., D.Sc., M.A., F.L.S. (V.-Pres., 1920; Council, 1919–21), *Rothamsted Experimental Station, Harpenden, Herts.*
1920 Inglis, C. M., F.Z.S., M.B.O.U., *Baghownie Factory, Laheria Sarai, Bihar, India.*

1927 Jackson, C. H. N., *Cayton, York-road, St. Albans.*
1917 ‡ Jackson, Miss Dorothy J., *North Cliff, St. Andrews, Fife.*
1927 Jacobi, Prof. A., *Museen fur Tierkunde und Volkerkunde, Dresden, Germany.*
1920 James, Russell, 7, *Broadlands-road, Highgate*, N. 6.
1914 ‡ Janse, A. J. T., 1*st-street, Gezina, Pretoria, S. Africa.*
1927 Janson, H., 44, *Gt. Russell-street, Bloomsbury*, W.C. 1.
1898 Janson, Oliver J., 13, *Fairfax-road, Hornsey*, N. 8.
1928 Jeddere-Fisher, Major H. C., *Woodlands Corner, Littlehampton, Sussex.*
1909 Jepson, Frank P., M.A., *Dept. of Agriculture, Peradeniya, Ceylon.*
1865 John, Evan, *Llantrisant S.O., Glamorganshire.*
*1907 Johnson, C. F., *West Bank, Didsbury-road, Heaton Mersey.*
1924 ‡ Johnston, H. B., M.A., *Wellcome Laboratory, Khartoum, Sudan.*
1920 ‡ Johnstone, Douglas, *Brooklands, Rayleigh, Essex.*
1927 Johnstone, J. F., Jun., *Ruxley Lodge, Claygate, Surrey.*
1908 ‡ Joicey, J. J., F.L.S., F.Z.S., F.R.G.S., etc. (Council, 1921–3), *The Hill, Witley, Surrey.*

1924 Jones, F. M., 2000, *Riverview Avenue, Wilmington, Delaware, U.S.A.*
1920 ‡ Jones, Rev. Neville, *Hope Fountain, Box* 283, *Buluwayo, Rhodesia, S. Africa.*
1924 Jones, W. E., *M'fongosi, Zululand.*
1894†‡Jordan, Dr. K. (V.-Pres., 1909, 1926; Council, 1909–11, 1924–6), *The Museum, Tring.*
1910 ‡ Joseph, E. G., 23, *Clanricarde-gardens,* W. 2.
1910 ‡ Joy, E. C., *Moore's Hotel, The Leas, Folkestone.*
1902 ‡ Joy, Norman H., M.R.C.S., L.R.C.P., 78, *Crescent-road, Reading.*
1919 Jurriaanse, J. H., *W.Z. Schickade,* 75, *Rotterdam, Holland.*

1928 Karandikar, K. R., B.A., M.Sc., *Department of Entomology, University of Edinburgh.*
1896†‡Kaye, W. J. (Council, 1906–8), *Caracas, Ditton-hill, Surbiton.*
1925 Kearns, H. G. H., B.Sc., *Dept. of Zoology, The University, Bristol.*
1926 Kelly, R., 59, *Swanston-street, Melbourne, Victoria, Aus.*
1926 Kennedy, Prof. C. H., *Ohio State Univ., Columbus, Ohio, U.S.A.*
1890 ‡ Kenrick, Sir George H., *Whetstone, Somerset-road, Edgbaston, Birmingham.*
1920 Kent-Lemon, Capt. Arthur Leslie, York & Lancaster Regt., *Blytheswood, Ascot, Berks.*
1904 Kershaw, G. Bertram, *Ingleside, West Wickham, Kent.*
1906 Keynes, John Neville, M.A., D.Sc., 6, *Harvey-road, Cambridge.*
1900 Keys, James H., 7, *Whimple-street, Plymouth.*
1919 Khare, J. L., *Agricultural College, Nagpur, India.*
1925 Killington, F. J., A.C.P., *School House, Holybourne Endowed School, Alton, Hants.*
1889 ‡ King, James, J. F.-X., 1, *Athole Gardens-terrace, Kelvinside, Glasgow.*
1912 ‡ King, H. H., Govt. Entomologist, *Gordon College, Khartoum, Sudan.*
1917 ‡ Kirkpatrick, T. W., *Government Research Farm, Wad Medani, Sudan.*
1887 † Klein, Sydney, T., F.L.S., F.R.A.S., *Lilly's, Chelsfield, Kent.*
1920 Knight, V., *Fairgreen Cottage, Glemsford, Suffolk.*

1927 Labouchere, F. A., 15, *Draycott-avenue, Chelsea,* S.W.
1922 ‡ Lacey, Lionel, 307, *Wolf's-lane, Pelham, N.Y., U.S.A.*
1925 Laidlaw, F. F., M.R.C.S., L.R.C.P., *Hyefield, Uffculme, Devon.*
1916 ‡ Laing, Frederick (Council, 1922–4), *Natural History Museum, Cromwell-road,* S.W. 7.
1910 ‡ Lakin, C. Ernest, M.D., F.R.C.S., 105, *Harley-street,* W. 1.
1924 Lamb, C. G., M.A., Sc.D., 65, *Glisson-road, Cambridge.*
1911†‡Lamborn, W. A., M.R.C.S., L.R.C.P., *c/o W. S. Tomkinson, Esq., North Hinksey, Oxon.*
1917 Langham, Sir Charles, Bart., *Tempo Manor, Co. Fermanagh.*
1922 Lankester, C. H., *Cartago, Costa Rica.*
1920 Lathy, Percy I., 90, *Boulevard Malesherbes, Paris.*
1916 Latta, Prof. Robert, D.Phil., c/o *University Library, Glasgow.*
1925 Latter, M. P., F.G.S., *Box* 1169, *The Corner House, Johannesburg, S. Africa.*
1895 Latter, Oswald H., M.A., *The Elms, Charterhouse-road, Godalming.*

1927 Lawson, H. B., *Brock Hill, Horsell, Woking, Surrey.*
1899 Lea, Arthur M., Government Entomologist, *Museum, Adelaide, S. Australia.*
1923 ‡ Lean, O. B., *The Moor Plantation, Ibadan, Nigeria, W. Africa.*
1910 Leigh, H. S., *The University, Manchester.*
1900 Leigh-Phillips, Rev. W. J., *Burtle Vicarage, Bridgwater.*
1927 Leivers, A. R., 20, *Warwick-road, Mapperley-park, Nottingham.*
1920 ‡ Leman, G. B. C., *Wynyard*, 52, *West-hill, Putney Heath*, S.W. 15.
1920 ‡ Leman, G. C., *Wynyard*, 52, *West-hill, Putney Heath*, S.W. 15.
1924 ‡ Le Pelley, R. H., *School of Agriculture, Cambridge.*
1903†‡Levett, The Rev. T. P., *Frenchgate, Richmond, Yorks.*
1925 Levick, J., *Ashley House, Handsworth Wood, Birmingham.*
1908 † Lewis, John Spedan, F.Z.S., *North Hall, Mortimer-crescent*, N.W. 6.
1922 ‡ Light, S. S., "*Oatlands,*" *Nuwara Eliya, Ceylon.*
1925 ‡ Llewellyn Jones, Rev. J. R., J., M.A., *Newcote, West-avenue, Exeter.*
1919 ‡ Lloyd, Llewellyn, D.Sc., *Azare, Kano, N.P., Nigeria.*
1885†‡Lloyd, R. W. (Vice-Pres., 1924; Council, 1900–1, 1923-5, 1928– ). I, 5, *Albany, Piccadilly*, W. 1.
1920 ‡ Lodge, George, *Hawkhouse, Upper Park-road, Camberley.*
1903 Lofthouse, T. A., *The Croft, Linthorpe, Middlesbrough.*
1925 ‡ Longfield, Miss C., 20, *Pont-street*, S.W. 1.
1908 ‡ Longsdon, D., *The Flower House, Southend, Catford*, S.E. 6.
1920 Loveridge, A., *Museum of Comparative Zoology, Cambridge, Mass., U.S.A.*
1901 Lower, Rupert S., *Tranmere, Magill-road, Corryton, S. Australia.*
1923 Lowther, R. C., M.B., Ch.B., *Fernleigh, Grange-over-Sands, Lancs.*
1898 ‡ Lucas, William John, B.A. (Council, 1904–6), 28, *Knight's-park, Kingston-on-Thames.*
1903 Lyell, G., *Gisborne, Victoria, Australia.*
1912 ‡ Lyle, G. T., *Briarfield, Stump Cross, Shibden, Halifax.*

*1922 McConnell, Dr. R. E., *Ladwood, Wakefield, Rhode Island, U.S.A.*
1910 Macdougall, R. Stewart, M.A., D.Sc., F.R.S.E. (Council, 1928– ), *Ivy Lodge, Gullane, East Lothian.*
1922 ‡ Mace, Herbert, *Faircotes, Harlow, Essex.*
1928 ‡ McKenny-Hughes, A. W., 22, *Stamford-road, Kensington*, W. 8.
1919 McLeod, M. C., *Court Lodge, Ware, Herts.*
1899†‡Main, Hugh, B.Sc., F.Z.S. (Council, 1908–10), 55, *Buckingham-road, South Woodford*, E. 18.
1892 ‡ Mansbridge, W., *Monreith, Derby-road, Formby, Liverpool.*
1919 Mansfield-Aders, Dr. W., *Zanzibar.*
1926 ‡ Mansour, K., *Dept. of Zoology, The Egyptian University, Abbassieh, Cairo.*
1923 Marillier, G. H., 37, *St. John's Wood-park, Hampstead.*
1925 ‡ Marks, E., *c/o The Marquis of Winchester*, 1, *Portland-place*, W.
1920 Marriner, T. F., *Church House, Court-square, Carlisle.*
1895 ‡ Marshall, G. A. K., C.M.G., D.Sc., F.R.S., F.Z.S. (V.-Pres., 1919, 1924; Council, 1907–8, 1919–21, 1924–6), 48, *Pont-street*, S.W. 1.
1922 Marshall, J. F., M.A., F.Z.S., *Seacourt, Hayling Island, Hants.*
1896 Marshall, P., M.A., B.Sc., F.G.S., *Hautere, Bellevue-road, Lower Hutt, New Zealand.*

1897 Martineau, Alfred H., *Shutteroaks Toll House, Crewkerne, Somerset.*

1919 Marumo, N., *Zoological Institute, Agricultural College, Imperial University, Komaba, Tokyo, Japan.*

1922 ‡ Massee, A. M., *East Malling Research Station, East Malling, Kent.*

1895 Massey, Herbert, *Ivy-Lea, Burnage, Didsbury, Manchester.*

*1865 Mathew, Gervase F., F.L.S., Paymaster-in-chief, R.N. (Council, 1887), *Lee House, Dovercourt, Harwich.*

1921 Matsumura, Prof. S., *Hokkaido Imperial University, Sapporo, Japan.*

1887 Matthews, Coryndon, *Woodside, Salcombe, S. Devon.*

1912 Maulik, Prof. S., *Dept. of Zoology, University of Calcutta, Calcutta, India.*

1916 ‡ May, Harry Haden, *Black Friars Distillery, Southside-street, Plymouth.*

1913 ‡ Meaden, Louis, *Melbourne, Dyke-road, Preston, Brighton.*

1920 ‡ Meldola, Mrs. Ella Frederica, 6, *Brunswick-square,* W.C. 1.

1927 Mellor, J. E. M., *Plant Protection Service, Ministry of Agriculture, Cairo, Egypt.*

1919 ‡ Mellows, Charles, M.A., *The College, Bishop's Stortford.*

1885 Melvill, J. C., M.A., F.L.S., *Meole Brace Hall, Shrewsbury.*

1926 Merritt-Hawkes, Mrs. O. A., M.Sc., 405, *Hagley-road, Edgbaston, Birmingham.*

1912 ‡ Metcalfe, Rev. J. W., *Holmbank, Westcott, Surrey.*

1880 ‡ Meyrick, Edward, B.A., F.R.S., F.Z.S., *Thornhanger, Marlborough.*

1926 ‡ Michelmore, A. P. G., *Saffron Close, Chudleigh, Devon.*

1883 ‡ Miles, W. H., *c/o E. Step, Esq.,* 158, *Dora-road, Wimbledon Park,* S.W. 19.

1920 Miller, D., Chief of Dept. of Entomology, *The Cawthron Institute, Nelson, New Zealand.*

1921 Miller, N. C. E., *Dept. of Agriculture, Kuala Lumpur, F.M.S.*

1925 Millott, R. T., *Waverley-road, Mansfield, Notts.*

1926 ‡ Mistihawy, A. M. El, *Plant Protection Service, Giza, Egypt.*

1923 Mitchell-Hedges, F. A., *The Deene, Lamorna, nr. Penzance, Cornwall.*

1902 ‡ Montgomery, A. M., 36, *Twyford-avenue, Acton,* W. 3.

1922 ‡ Moore, A., M.D., *Sundew, Lyndhurst, Hants.*

1899 ‡ Moore, Harry, 12, *Lower-road, Rotherhithe,* S.E. 16.

1927 Moore, H. W. B., *Plan Albion, Berbice, Brit. Guiana.*

1922 Moore, J. W., 151, *Middleton Hall-road, King's Norton, Birmingham.*

1927 Morgan, Capt. H. O., 12, *All Saints-road, Clifton, Bristol.*

1923 Morison, G. D., B.Sc., *Entomological Dept., Marischal College, Aberdeen.*

1895†‡Morley, Claude, F.Z.S., *Monk Soham House, Suffolk.*

1920 ‡ Morris, H. M., M.Sc., *Agric. Dept, Nicosia, Cyprus.*

1893 Morton, Kenneth J., 13, *Blackford-road, Edinburgh.*

1910 ‡ Mosely, Martin E., 43, *Lansdowne Crescent,* W. 11.

1882 Mosley, S. L., *Highroyd,* 75, *Waspnest-road, Fartown, Huddersfield.*

1911 ‡ Moss, Rev. A. Miles, *c/o Messrs. Booth & Co., Para, Brazil.*

1911 Mounsey, J. Jackson, *Bryn-Tirion, Kingstone, Hereford.*

1922 ‡ Moysey, Capt. F., *c/o Col. R. H. Rattray,* 68, *Dry Hill Park-road, Tonbridge, Kent.*

1901 † Muir, Frederick, *H.S.P.A. Experiment Station, Honolulu, Oahu, H.I.*

1912 † Mullan, Jal P., M.A., F.L.S., F.Z.S., Professor of Biology, *St. Xavier's College, Lamington-road, Grant-road Post, Bombay, India.*
1925 Mumford, E. P., *Firbeck*, 44, *Wilmslow-road, Withington, Manchester.*
1920 Munro, H. K., B.Sc., *P.O. Box* 513, *Pretoria, South Africa.*
1918 Munro, J. W., D.Sc. (Council, 1927– ), *Imperial College of Science, S. Kensington*, S.W. 7.
1914 Murray, G. H., *Rabaul, New Britain, New Guinea.*
1922 Musgrave, A., *Australian Museum, Sydney, N.S.W.*
1920 Myers, J. G., D.Sc., *c/o The Imperial College of Tropical Agriculture, St. Augustine, Trinidad, West Indies.*

1921 Nair, K. P. U., *Training College, Trivandrum, India.*
1926 ‡ Nash, T. A. M., 16, *Queen's Road, Richmond, Surrey.*
1903 ‡ Neave, S. A., M.A., D.Sc., F.Z.S. (Secretary, 1919– ; V.-Pres., 1918; Council, 1916–18), 41, *Queen's-gate*, S.W. 7, and *Bishop's House, Beaconsfield, Bucks.*
1919 ‡ Nell, Louis, *Imperial Bureau of Entomology*, 41, *Queen's-gate*, S.W. 7.
1919 Nelson, W. G. F. (Council, 1922–4), 6, *Bolton-street*, W. 1.
1923 Nevill, T. N. C., 48, *Sloane-square*, S.W.
*1901 ‡ Nevinson, E. B., *Morland, Cobham, Surrey.*
1926 Newey, H. F., *Craigmore, Coleshill-street, Sutton Coldfield.*
1923 ‡ Newland, Gordon, 35, *Gunnersbury-avenue, Ealing*, W. 5.
1907 ‡ Newman, Leonard Woods, *Bexley, Kent.*
1913 Newman, L. J. W., *Bernard-street, Claremont, W. Australia.*
1909 Newstead, Alfred, *The Grosvenor Museum, Chester.*
1921 Nicholson, A. J., *University of Sydney, New South Wales, Australia.*
1914 ‡ Nicholson, Charles, "*Nansgwithick,*" *Tresillian, Probus, Cornwall.*
1909 ‡ Nicholson, G. W., M.A., M.D. (Council, 1913–15), *Oxford and Cambridge Club, Pall Mall*, S.W. 1.
1918 ‡ Nimmy, E. W., 7, *Waldegrave-road, Twickenham.*
*1906 Nix, John Ashburner, *Tilgate, Crawley, Sussex.*
1923 Notman, H., F.S.A., 136, *Joralemon-street, Brooklyn, New York, U.S.A.*
1895 Nurse, Lt.-Col. C. G., *Redcote, Rusthall Park, Tunbridge Wells.*

1877 Oberthür, René, *Rennes (Ille-et-Vilaine), France.*
1910 ‡ Oldaker, Francis A., M.A., *The Red House, Haslemere.*
1921 Ollenbach, O. C., *Survey of India Dept., Dehra Dun, India.*
1925 Onslow, F. R. D., 10, *Keswick-road, East Putney*, S.W.
1913 ‡ Ormiston, Walter, *New Oriental Hotel, Galle, Ceylon.*

1895 ‡ Page, Herbert E. (Council, 1918–20), *Bertrose, Gellatly-road, St. Catherine's Park*, S.E. 15.
1928 Paine, R. W., Asst. Entomologist, *Dept. of Agriculture, Suva, Fiji.*
1921 Pallis, M. A., *Tatoi, Aigburth-drive, Liverpool.*
1916 Palmer, A. Ray, *Standeford, Baldock-road, Letchworth, Herts.*
1919 Paravicini, Louis, *Commissioner de la Bourse de Bâle, Bâle, Switzerland.*
1918 ‡ Parris, R. S., *Raymond House, Bramley, Guildford.*

1919 Patton, Prof. W. S., M.B., *School of Tropical Medicine, Pembroke-place, Liverpool.*
1922 ‡ Pearce, Rev. E. J., 18, *Milton-road, Swindon, Wilts.*
1922 ‡ Pearce, Miss E. K., *East Morden, Wareham, Dorset.*
1927 Pearman, J. V., 32, *Cornwallis Crescent, Clifton, Bristol.*
1916 ‡ Peebles, Howard M., 1, *Prince Edward Mansions, Palace-court,* W. 2.
1919 Peed, John, *Aylsham, Norfolk.*
1915 ‡ Peile, Lt.-Col. H. D., I.M.S., *Rawdon,* 25, *De la Warr-road, Bexhill-on-Sea.*
1921 ‡ Pendlebury, Capt. H. M., *Broadlands, Shrewsbury;* Systematic Entomologist, *Federated Malay States.*
1914 ‡ Pendlebury, Major Wm. J. de Monté, M.A., *Broadlands, Shrewsbury.*
1922 ‡ Perkins, M. G. L., 5, *Little Cloisters, Westminster-abbey,* S.W. 1.
1903 † Perkins, R. C. L., M.A., D.Sc., F.R.S., 4, *Thurlestone-road, Newton Abbot, Devon.*
1928 Perkins, J. F., 4, *Thurleston-road, Newton Abbot, Devon.*
1907 ‡ Perrins, J. A. D., 3rd Seaforth Highlanders.
1897 ‡ Phillips, Capt. Hubert C., F.Z.S., M.R.C.S., L.S.A., 17, *Hereford-road, Bayswater,* W. 2.
1903†‡Phillips, Montagu A., F.R.G.S., F.Z.S., *c/o Dr. Phillips,* 57, *St. George's-square,* S.W.
1920 Philpott, A., Hon. Research Student in Lepidoptera, *Cawthron Institute of Scientific Research, Nelson, New Zealand.*
1917 ‡ Pickard-Cambridge, Arthur W., M.A., *Balliol College, Oxford.*
1928 Piel, O., *College of St. Francis de Sales, Évreux, France.*
1891 ‡ Pierce, F. N., *The Old Rectory, Warmington, Oundle, Northants.*
1913 Platt, E. E., 403, *Essenwood-road, Durban, Natal.*
1919 Pomeroy, A. W. Jobbins, *Medical Research Institute, Accra, Gold Coast.*
1884†‡Poulton, Professor Edward B., D.Sc., M.A., F.R.S., F.L.S., F.G.S., F.Z.S., Hope Professor of Zoology in the University of Oxford, (Pres. 1903–4, 1925–6; V.-Pres., 1894–5, 1902, 1905, 1922–3; Council, 1886–8, 1892, 1896, 1905–7, 1922–4, 1927), *Wykeham House, Banbury-road, Oxford.*
1905 Powell, H., *Pharmacie du Croissant, Meknèo-Medina, Morocco.*
1921 Powniah, D., *Agricultural Dept., Kuala Lumpur, Fed. Malay States.*
1919 Praed, C. W. M., *Dalton Hill, Albury, Surrey.*
1922 Price, J., 165, *Corporation-street, Stafford.*
1908 ‡ Prideaux, R. M. (Council, 1917), *Woodlands, Brasted Chart, Sevenoaks.*
1920 ‡ Prior, W. H. T., *Culban, Main-road, New Eltham, Kent.*
1904 ‡ Priske, Richard A. R., 9, *Melbourne-avenue, West Ealing.*
1920 Prout, Miss A. E., *Lane End, Hambledon, Godalming.*
1893 ‡ Prout, L. B. (Council, 1905–7), 84, *Albert-road, Dalston,* E. 8.
1910 Punnett, Professor R. C., M.A., *Caius College, Cambridge.*
1926 Puri, Dr. I. M., *Central Research Institute, Kasauli, Punjab, India.*

1922 ‡ Rae, Mrs. Margaret, *Courthill, Birkenhead.*
1923 ‡ Raff, Miss Janet W., M.Sc., *c/o The Biology School, University of Melbourne, Victoria, Australia.*
1912 ‡ Rait-Smith W. (Council, 1924–6), *Hurstleigh, Linkfield-lane, Redhill, Surrey.*
1924 ‡ Ralfs, Miss E. M., 60, *Clarendon-road, Holland-park,* W. 11.

1916 Ramachandra, R. Y., M.A., *Agricultural College, Coimbatore, India.*

1920 ‡ Rambousek, Dr. F. G., M.P., *Prague, Post Office*, 48, *Vorechovka*, 112, *Czechoslovakia.*

1907 ‡ Rayward, A. L., 1, *Meadhurst, Mead-road, Eastbourne.*

1928 Reed, F. J., 30 and 32, *Eastover, Bridgwater, Somerset.*

1898 Reuter, Professor Enzio, *Helsingfors, Finland.*

1910 ‡ de Rhé-Philipe, G. W. V., *Birkheads, Reigate, Surrey.*

1927 Richards, A. J., *Hazeldene, Hindhead, Surrey.*

1924 ‡ Richards, O. W., *Evreham Lodge, Iver, Bucks.*

1920 ‡ Richards, P. B., Government Entomologist, *Dept. of Agriculture, United Provinces, Allahabad, India.*

1920 ‡ Richardson, A. W., 28, *Avenue-road, Southall, Middlesex.*

1922 ‡ Richardson, Rev. W. H., 88, *Stone-road, Stafford.*

1921 Riddell, Miss J., 815, *El Centro-avenue, Los Angeles, California, U.S.A.*

1924 Riley, C. F. C., *Dept. of Zoology, Univ. of Manitoba, Winnipeg, Canada.*

1912 ‡ Riley, N. D., F.Z.S. (Secretary, 1926– ; Council, 1921–3), 5, *Brook-gardens, Beverley-road, Barnes*, S.W. 13, and *British Museum (Natural History), S. Kensington*, S.W. 7.

1908 ‡ Rippon, Claude, M.A., 28, *Springfield House, Abingdon.*

1926 ‡ Robbins, J. C., *The Rosery, Limpsfield, Surrey.*

1917 Roberts, A. W. Rymer, M.A., *Molteno Inst., Downing-street, Cambridge.*

1927 Roberts, J. E. H., O.B.E., M.B., F.R.C.S., 26, *Harley-street*, W. 1.

1889–1898, 1925 :

Robinson, A., B.A., *Bretanby, Seal, nr. Sevenoaks, Kent.*

1905 Robinson, Herbert C., *c/o Lloyds Bank (King's Section)*, 6, *Pall Mall*, S.W. 1.

1904 ‡ Robinson, Lady, *Worksop Manor, Notts.*

1921 Roebuck, A., *Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.*

1908 ‡ Rogers, The Rev. Canon K. St. Aubyn, M.A., *Box* 818, *Nairobi, Kenya Colony.*

1922 Rosa, A. F., M.D., 28, *Pitt-street, Edinburgh.*

1907 ‡ Rosenberg, W. F. H., 57, *Haverstock-hill*, N.W. 3.

1888†‡Rothschild, The Right Hon. Lord, D.Sc., F.R.S., F.L.S., F.Z.S. (President, 1921–2; Vice-President, 1920, 1923; Council, 1900, 1919), *Zoological Museum, Tring.*

1890 ‡ Routledge, G. B., *Tarn Lodge, Heads Nook, Carlisle.*

1928 Russell, A. G. B., 88a, *Cromwell-road*, S.W. 7.

1922 Russell, Frank, *Auldham House, Worksop, Notts.*

1892 ‡ Russell, S. G. C., "*Brackenhurst,*" *Reading-road, Fleet, Hants.*

1922 Ruston, A. H., *Aylesbury House, Chatteris, Cambs.*

1919 ‡ St. Aubyn, Capt. John G., 14, *Purley Knoll, Purley, Surrey.*

1920 St. John, W. St. A., M.R.C.S., L.R.C.P., *Derwent House, Derby.*

1928 Salt, E., Ph.D., *Farnham House Laboratory, Farnham Royal, Bucks.*

1926 Samman, Miss M., *The Croft, North Ferriby, E. Yorks.*

1910 ‡ Saunders, H. A., 19, *Creffield-road, Colchester.*

1923 ‡ Saunders, L. G., M.Sc., Ph.D., *Dept. of Zoology, Univ. of Saskatchewan, Saskatoon, Canada.*

1920 Scharff, Dr. J. W., *Govt. Medical Dept., Singapore.*
1901 Schaus, W., F.Z.S., *U.S. National Museum, Washington, D.C., U.S.A.*
1920 Schlupp, W. F., B.Sc., *Newcomerstown, Ohio, U.S.A.*
1907 ‡ Schmassmann, W., *Beulah Lodge, London-road, Enfield,* N.
1909 ‡ Scott, Hugh, M.A., Sc.D., F.L.S. (Vice-President, 1926; Council, 1925–7), *c/o Rev. E. Scott, M.A., Leighton Buzzard, Beds.*
1920 ‡ Seabrook, J., 83, *Drewstead-road, Streatham,* S.W. 16.
1911 Selous, C. F., M.D., M.R.C.S., L.R.C.P., 25, *Church-road, Tunbridge Wells.*
1923 Sen, S. K., B.Sc., *Imperial Inst. of Veterinary Research, Muktesar, P.O. Ritain, Dist. Naini Tal, U.P., India.*
1911†‡Sennett, N. S.,
1926 Sevastopulo, D. G., *c/o Ralli Bros., Calcutta, India.*
1924 ‡ Sharp, E. P., 1, *Bedfordwell, Eastbourne.*
1925 Shaw, F., *Maadi, nr. Cairo, Egypt.*
1886 Shaw, George T. (Librarian of the Liverpool Free Public Library), *William Brown-street, Liverpool.*
1905 ‡ Sheldon, W. George, F.Z.S. (Treasurer, 1918–28; Vice-President, 1920), *West Watch, Limpsfield, Surrey.*
1900†‡Sheppeard-Walwyn, H. W., M.A., *Dalwhinnie, Kenley, Surrey.*
1923 Sherman, J. D., Jun., 132, *Primrose-avenue, Mt. Vernon, New York, U.S.A.*
1926 ‡ Shibuya, J., *Hokkaido Imp. Univ., Sapporo, Japan.*
1887†‡Sich, Alfred (Council, 1910–12), *c/o George Sich, Esq., Grayingham, Farncombe-road, Worthing.*
1911 ‡ Simes, J. A., O.B.E., *Kingsley Cottage, Queen's-road, Loughton, Essex.*
1904 ‡ Simmonds, Hubert W., *Dept. of Agriculture, Suva, Fiji.*
1921 ‡ Simms, H. M., B.Sc., *The Farlands, Stourbridge.*
1926 Simpson, R. G., *Verona, Manor Park-crescent, Edgware, Middlesex.*
1924 Simpson-Hayward, G. H., *Icomb Place, Stow-on-the-Wold, Gloucestershire.*
1928 Sinton, Major J. A., V.C., O.B.E., I.M.S., M.D., Director, *Malaria Survey of India, Kasauli, India.*
1926 Skaife, Dr. S. H., *Dept. of Education, Cape Town, S. Africa.*
1926 Skinner, G. S., *Usine Ste. Madeleine, Trinidad, B.W.I.*
1922 Sloane, T. G., *Moorilla, Young, New South Wales, Australia.*
1906 ‡ Smallman, R. S., *Heathersett,* 30, *Leigham Court-road, Streatham,* S.W. 16.
1916 ‡ Smart, Major H. Douglas, M.D., B.S., 172, *High-road, Salway Hill, Woodford Green, Essex.*
1920 ‡ Smee, C., Govt. Entomologist, *Zomba, Nyasaland.*
1915 ‡ Smith, A. C., *Horton, Mornington-road, Woodford Green.*
1901 Smith, Arthur, *County Museum, Lincoln.*
1911 ‡ Smith, B. H., B.A., *c/o Messrs. B. Smith & Sons, Ltd., Wheatsheaf Wharf, Upper Thames-street,* E.C.
1924 ‡ Smith, F. Stanley, *Sunnyside, Middle Bourne, Farnham, Surrey.*
1925 Smith, K. M., D.Sc., 11, *Station Road, Cambridge.*
1919 Smith, S. Gordon, F.L.S., *Estyn, Boughton, Cheshire.*
1918 † Smith, W. P., F.Z.S., *Haddon House, Ashton-on-Mersey, Lancs.*
1925 Soliman, H. S., 7, *Chatsworth-gardens, Acton,* W. 3.
1885 ‡ South, Richard (Council, 1890–1), 4, *Mapesbury-court, Shoot-up Hill, Brondesbury,* N.W. 2.

*1916 ‡ Sowerby, F. W., *Stafford House, Cleethorpes, Lincs.*

1908 ‡ Speyer, Edward R., *Ridgehurst, Shenley, Herts.*

1919 Stansfield, Capt. L. R., R.G.A.

1928 Steer, W., *East Malling Research Station, East Malling, Kent.*

1910 ‡ Stenton, R., 22, *Milton-road, Harpenden.*

1923 Stewart, A. M., 8, *Ferguslie, Paisley,* N.B.

1922 Stewart, B., *Lovell House, Leeds, Yorks.*

1920 ‡ Stidston, Engr.-Commander S. T., R.N., *Ashe, Ashburton, S. Devon.*

1918 ‡ Stiff, Rev. Alfred T., *All Souls' Vicarage, Brighton.*

1910 ‡ Stoneham, Capt. Hugh F., O.B.E., F.Z.S., M.B.O.U., "*Parknasilla,*" *The East Surrey Estate, P.O. Kitale, Trans-Nzoia, Kenya Colony.*

1915 ‡ Stott, C. E., *The Mount, Armitage, nr. Rugeley.*

1927 Strand, Prof. Embrik, M.A.N., F.L.S., F.Z.S., etc., *Director, Systematic Zoological Institute and Hydrobiological Station, The University, Riga, Latvia.*

1925 Swiestra, C. J., *Director, Transvaal Museum, Pretoria.*

1876 ‡ Swinton, A. H., *Oak Villa, Braishfield, Romsey, Hants.*

1911 ‡ Swynnerton, C. F. M., Director of Game Preservation, *Kilosa, Tanganyika Territory.*

1920 ‡ Syms, Edgar E., 22, *Woodlands-avenue, Wanstead,* E. 11.

1910 Tait, Robt., junr., *Covertside, Moss-lane, Ashton-on-Mersey.*

1908 ‡ Talbot, G., *Mon Plaisir, Wormley, Surrey.*

1920 ‡ Tams, W. H. T. (Council, 1927– ), 19, *Sulivan-road, Hurlingham,* S.W. 6.

1918 Tapp, Capt. W. H., F.R.A.S., F.R.G.S.

1916 Tatchell, L. S., *Swanage, Dorset.*

1903 Taylor, T. H., M.A., *Yorkshire College, Leeds.*

1914 Temperley, Reginald, *The Manor House, Merricott, Somerset.*

*1919 ‡ Temple, Major Watkin, *East Mersea, Essex.*

1910 ‡ Theobald, F. V., M.A., *Wye Court, Wye, Kent.*

1925 Thompson, H. W., *Research Dept. in Agriculture, University College, Cardiff.*

1901 ‡ Thompson, M. L., 40, *Gosford-street, Middlesbrough.*

1892 Thornley, The Rev. A., M.A., F.L.S., F.R.Met.Soc., *St. Anaels, Carbis Bay, Cornwall.*

1926 Thorpe, W. H., B.A., *Zoological Laboratory, Cambridge.*

1907 ‡ Tillyard, R. J., M.A., D.Sc., F.R.S., F.L.S., Chief Commonwealth Entomologist, *G.P.O., Box* 18, *Canberra, F.C.T., Australia.*

1920 Tinsley, Joseph, *West of Scotland Agricultural College, Burns-avenue, Kilmarnock.*

1897 ‡ Tomlin, J. R. le B., M.A. (Council, 1911–13), 23, *Boscobel-road, St. Leonards-on-Sea.*

1907 ‡ Tonge, Alfred Ernest (Council, 1915–17, 1927– ), *Aincroft, Reigate, Surrey.*

1920 Tonge, Alfred E., *Ashville, Trafford-road, Alderley Edge, Cheshire.*

1914 de la Torre Bueno, J. R., 11, *North-broadway, White Plains, New York, U.S.A.*

1928 Tottenham, Rev. C. E., 60, *Mount Ararat-road, Richmond.*
1927 Townsend, A., *Leam Grange, Warwick New-road, Leamington Spa.*
1906 ‡ Tulloch, Brig.-Gen. J. B. G., C.B., C.M.G., *c/o Lloyds Bank, Ltd.*, 6, *Pall Mall*, S.W. 1.
1895 ‡ Tunaley, Henry, *Castleton, Searle-road, Farnham.*
1910 Turati, Conte Emilio, 4, *Piazza S. Alessandro, Milan, Italy.*
1898 ‡ Turner, A. J., M.D., *Wickham-terrace, Brisbane, Australia.*
1893 ‡ Turner, Henry Jerome (Librarian, 1921– ; Council, 1910–12), *Latemar, West Drive, Cheam.*
1906 ‡ Turner, Rowland E. (Council, 1909–10), *British Museum (Natural History), S. Kensington*, S.W. 7.
1923 ‡ Twidle, A., N.S.A., *The Rowans, Godstone Green, Surrey.*
1915 ‡ Tytler, Maj.-Gen. Sir H. C., K.C.B., C.M.G., D.S.O., C.I.E., *c/o Grindlay & Co.*, 54, *Parliament-street*, S.W. 1.

1893 ‡ Urich, F. W., C.M.Z.S., *Port of Spain, Trinidad, British West Indies.*
1920 ‡ Uvarov, B. P., *Natural History Museum, S. Kensington*, S.W. 7.

1923 ‡ Valentine, A., *Grand Hotel, Herne Bay, Kent.*
1922 ‡ Van Someren, V. G. L., C.M.Z.S., *Nairobi, Kenya Colony.*
1924 ‡ Van Straubenzee, Brig-Gen., C. H. Casimir, C.B., C.B.E., 3, *Sussex Mansions, Sussex-place*, S.W. 7.
1904†‡Vaughan, W.
1914 ‡ Veitch, Robert, B.Sc., *Dept. of Agriculture, Brisbane, Australia.*
1909 Vidler, Leopold A., *The Old Stone House, Rye, Sussex.*

1897 ‡ Wainwright, C. J. (Council, 1901, 1912–14), 172, *Hamstead-road, Handsworth, Birmingham.*
1918 Walford, L. J., *The Cavalry Club, Piccadilly*, W.
1878 ‡ Walker, J. J., M.A., R.N., F.L.S. (President, 1919–20; V.-Pres., 1916, 1921; Sec., 1899, 1905–1918; Council, 1894, 1921), *Aorangi, Lonsdale-road, Summertown, Oxford.*
1921 Walker, S., 53, *Micklegate-hill, York.*
1928 Walsh, Mrs. H. S., *Societeits Straet*, 5, *Soekaboemi, Java.*
1920 Wallace, William, M.B., 15, *Hainton-avenue, Grimsby.*
1921 Wallis, H. H., M.A., *Rye Grammar School, Rye, Sussex.*
1919 ‡ Ward, J. Davis, *Limehurst, Grange-over-Sands, Lancs.*
1910 ‡ Ward, John J., *Natura, Woodland-avenue, Coventry.*
1908 ‡ Warren, B. C. S., 14, *Avenue de l'Eglise Anglaise, Lausanne, Switzerland.*
1901 † Waterhouse, G. A., B.Sc., B.E., *Allowrie, Stanhope-road, Killara, New South Wales, Australia.*
1923 ‡ Waters, Prof. E. G. R., M.A., 184, *Woodstock-road, Oxford.*
1914 ‡ Waterston, James, B.D., D.Sc. (Council, 1920–2), *British Museum (Natural History), S. Kensington*, S.W. 7.
1921 Watkinson, The Rev. G., M.A., *Woodfield, Hipperholme, nr. Halifax.*
1918 Watson, J. H., 70, *Ashford-road, Withington, Manchester.*
1914 Watt, Morris N., M.B., Ch.B., *Public Hospital, Oamaru, New Zealand.*
1923 West, Lieut.-Col. R. M., M.D., D.S.O., O.B.E., *Wootton Bridge, Isle of Wight.*

1906 ‡ Wheeler, The Rev. George, M.A., F.Z.S. (Secretary, 1911–21; V.-Pres., 1914; Council, 1921), *Ellesmere, Gratwicke-road, Worthing.*
1910 ‡ White, E. Barton, M.R.C.S., *The Mental Hospital, Fishponds, Bristol.*
1918 White, Ronald Senior, *Central Research Institute, Kasauli (Simla Hills), India.*
1923 ‡ Whitfield, F. G. S., *Wellcome Tropical Research Laboratories, Khartoum, Sudan.*
1913†‡Whitley, P. N., *Brantwood, Halifax;* and *New College, Oxford.*
1921 ‡ Whitney, W. B., Ph.D., A.M.Inst.C.E., 74, *Eccleston-square,* S.W. 1.
1913 † Whittaker, Oscar, F.R.M.S., *Box* 248, *Hollyburn, British Columbia.*
1911–1920, 1925:
‡ Whittingham, Rt. Rev. A. G., Lord Bishop of St. Edmundsbury and Ipswich, *The Bishop's House, Ipswich.*
1917 ‡ Wickham, Rev. Prebendary A. P., *East Brent Vicarage, Highbridge, Somerset.*
1926 Wigglesworth, Dr. V. B., "*Hedgeside,*" *Holtspur End, Beaconsfield, Bucks.*
1923 Wightman, A. J. C., *Aurago, W. Chiltington Common, Pulborough, Sussex.*
1896 ‡ Wileman, A. E., 37, *Queen's-gate Gardens,* S.W. 7.
1922 ‡ Wilkinson, Capt. D. S., *c/o Imperial Bureau of Entomology, Natural History Museum, Cromwell-road,* S.W. 7.
1923 Wilkinson, Harold, *P.O. Box* 93, *Kampala, Uganda.*
1911 ‡ Williams, C. B., M.A., 20, *Slatey-road, Birkenhead. Trans. to:—Research Institute, Amani, Tanganyika Territory.*
1915 Williams, H. B., LL.D., *Littledene, Clairmont-lane, Esher, Surrey.*
1921 ‡ Willmer, E. Nevill, *Trafford Hall, near Chester.*
1922 Wilson, F. E., "*Cyathea,*" *Ferncroft-avenue, E. Malvern, S.E.* 5, *Victoria, Australia.*
1921 ‡ Wilson, H. I., O.B.E., M.A., F.Z.S., 139, *Bishop's Mansions, Fulham,* S.W. 6.
1919 † Wilson, Lt.-Col. R. S., *Army and Navy Club, Pall Mall,* S.W.
1925 Winckworth, R., 37, *Upper Rock Gardens, Brighton.*
1915 Winn, A. F., 32, *Springfield-avenue, Westmount, Montreal, Canada.*
1923 ‡ Winstanley, E. J., L.D.S., R.C.S., 32, *Belsize-grove, Haverstock Hill,* N.W. 3.
1928 Winter, A. E., 148, *West End-avenue, Harrogate.*
1926 Womersley, H., *Sunny Meads, West Town, nr. Bristol.*
1928 Wood, A. H., *King's College, Cambridge.*
1919 ‡ Wood, H. Worsley, 37, *De Freville-avenue, Cambridge.*
1927 Wood, R. C., *Magombwa Estate, P.O. Cholo, Nyasaland.*
1905 Woodbridge, F. C., *Briar Close, Latchmore-avenue, Gerrard's Cross S.O., Bucks.*
1925 Woodcock, A. J. A., M.Sc., *Clifton Manor, York.*
*1914 ‡ Woodforde, F. C., B.A., *c/o Hope Department, University Museum, Oxford.*
1925 ‡ Woodward, Capt. G. C., R.N., *Training Ship "Cornwall," Denton, nr. Gravesend, Kent.*
1921 Woolett, G. F. C., *Sipilang, Province Clarke, B.N. Borneo.*

1926 de Worms, C. G. M., *Milton Park, Egham, Surrey.*
1926 ‡ Worthington, E. B., *Caius College, Cambridge.*
1922 Wright, A. E., *Burnleigh, Kent Bank-road, Grange-over-Sands.*
1927 ‡ Wright, W. Rees, M.Sc., *Dept. of Zoology, The University of Manchester.*
1926 Wyatt, C. W. fforde, 14, *Cavendish-square,* W. 1.

1925 ‡ el Zoheiry, M. Soliman, *Entomological Section, Ministry of Agriculture, Cairo, Egypt.*

# ADDITIONS TO THE LIBRARY

## During the Year 1928.

---

Adkin (R.). The Butterflies of Eastbourne.
[Trans. Eastbourne Nat. His. Photo & Lit. Soc., Supp., Vol. IX.] Eastbourne, 1928.
*The Author.*

Bang-Haas (O.). Horae Macro-lepidopterologicae. Vol. I. Dresden, 1928. *Purchased.*

——— Novitates Macro-lepidopterologicae. Parts II, III. Dresden, 1928. *Purchased.*

Bell (J. H.). Methods of Moth Collecting. London, 1928. *The Author.*

Bezzi (Mario). Diptera Brachycera and Athericera of the Fiji Islands, based on material in the British Museum (Natural History). London, 1928.
*Trustees British Museum.*

Bugnion (E.). The Origin of Insects. London, 1927. *The Author.*

Carr (J. W.). The Invertebrate Fauna of Nottingham. Nottingham, 1916. *Purchased.*

Cassino (S. E.). The Naturalists' Directory. Salem, U.S.A., 1929. *Purchased.*

Cockerell (T. D. A.). Zoology of Colorado. Boulder, Colorado, 1927. *The Author.*

Collin (J. E.). New Zealand Empididae, based on material in the British Museum (Natural History). London, 1928. *Trustees British Museum.*

Comstock (J. H.). An introduction to Entomology. First complete edition, Ithaca, N.Y., 1924.
*The Author.*

Evans (Col. W. H.). Identification of Indian Butterflies. Madras, 1927. *Purchased.*

Gadeau de Kerville (H.). Voyage Zoologique d'Henri Gadeau de Kerville en Syrie. Tome Premier. Paris, 1926. *Dr. G. A. K. Marshall.*

Harrison (J. W. H.). The Genus *Ithysia*. The Hybrid Bistoninae. Rennes, 1913.
*Purchased.*

Hingston (Major R. W. G.). Problems of Instinct and Intelligence. London, 1928.
*The Author.*

Hoffmann (F.) and Klos (R.). Die Schmetterlinge Steiermarks. Graz, 1914. *Purchased.*

Horn (W.) and Schenkling (S.). Index Litteraturae Entomologicae. Parts I, II, III. Berlin, 1928–9. *Purchased.*

Hudson (G. V.). The Butterflies and Moths of New Zealand. 62 Plates. Wellington, 1928.
*Purchased.*

Imms (A. D.). Textbook of Entomology. London, 1924. *Purchased.*

Lefroy (H. M.). Indian Insect Life. Calcutta, 1909. *Purchased.*

Metcalf (C. L.). Destructive and Useful Insects, their habits and control. London, 1928.
*Presented.*

Meyrick (E.). Exotic Microlepidoptera. [Vol. III, Part 13.] London, 1928. *The Author.*

Monteiro (Rose). Delagoa Bay: its Natives and Natural History. London, 1891.
*Purchased.*

Morey (F.). A guide to the Natural History of the Isle of Wight. London, 1909.
*H. J. Turner.*

Newstead (R.). Monograph of the Coccidae of the British Isles. Vols. I, II. The Ray Society, London, 1900 and 1902. *Purchased.*

de Prunner (L.). Lepidoptera Piedemontana. Turin, 1798. *Purchased.*

Samoa. Insects of Samoa and other Samoan Terrestrial Arthropoda. The parts as issued. London, 1927–8. *Trustees British Museum.*

Schuster (J.). Linné und Fabricius zu ihrem Leben und Werk. Munich, 1928. *Presented.*

Sherborn (C. D.). Index Animalium. Parts VIII–XVI. London, 1925–8.
*Trustees British Museum.*

Talbot (G.). A Monograph of the Pierine Genus *Delias*. Witley, 1928. *The Author.*

Theobald (F. W.). Aphididae of Gt. Britain. Vol. I, II. London, 1924. *Purchased.*

Tillyard (R. J.). The Insects of Australia and New Zealand. Australia, 1926. *The Author.*

Wallace (R.). Eleanor Ormerod, LL.D., Economic Entomologist. London, 1904.

## ADDITIONS TO THE LIST OF PERIODICALS

Revista de la Soc. Entom. Argentina.

Bull. des Instit. Royale d'Hist. Nat. a Sophia, Bulgaria.

Bull. de la Soc. Entom. Bulgarie.

Revista Chilena de Hist. Nat., Chile.

Bol. Soc. Ent. de Chile.

Proc. Hawaiian Entomological Society.

Korrespondenzblatt des Naturforschen-Vereins zu Riga, Latvia.

Annuaire du Musée Zoologique, Leningrad, Russia.

Bull. Raffles Museum, Singapore, Straits Settlement.

Japanese Journal of Zoology, Tokyo, Japan.

## SEPARATES FROM PUBLICATIONS AND JOURNALS NOT RECEIVED IN THE LIBRARY

Agr. Res. Inst., Pusa, Bull. 184. List of Publications on Indian Entomology, 1927. Calcutta, 1928.

Amos (J.), Hatton (R. G.), Knight (R. C.), and Massee (A. M.). "Reversion" in Black Currants: its causes and eradication.
[Kent Cherry and Soft Fruit Show Cat.] Maidstone, 1927. *The Authors.*

Austen (Major E. E.). The House Fly: its Life History, importance as a disease carrier, and practical measures for its suppression.
[British Museum (Nat. Hist.), Econ. Ser., No. 1a.] London, 1928. *Trustees British Museum.*

Banks (N.) and Myers (J. G.). Studies on Cuban Insects. 1. Notes on Cuban and other West Indian Psammocharidae. 2. Notes on Cuban Fulgoroid Homoptera. Cambridge, U.S.A., 1928.

Barraud (P. J.). A Revision of the Culicine Mosquitoes of India. Part XXIII (2 copies). Part XXIV (2 copies).
[Ind. Jour. Med. Res., Vol. XV, No. 3.] Calcutta, 1928. *The Author.*

——— The Distribution of *Stegomyia fasciata* in India, with remarks on Dengue and Yellow Fever.
[Ind. Jour. Med. Res., Vol. XVI, No. 2.] Calcutta, 1928. *The Author.*

Borne (Dr. F. P.). Distribución geográfica de la mariposa plateada de Chile.
[Rev. Chil. His. Nat. Año. XXXI.] Chile, 1927. *Dr. Carlos E. Porter.*

Born (Dr. Paul Von). Die Carabenfauna Norwegens.
[Norsk. Entom. Tideskrift. Bind. II, Hefte 1.] Christiana, 1924. *A. E. Andrewes.*

Box (H. E.). Estudios Con Insectos de la Cāna de Azũcar.
[Rev. Ind. Agric. Tucumān, Vol. XVIII, pp. 162–172.] Tucumān, 1928. *The Author.*

——— *Diatraea saccharalis* and the P.O.J. canes. Some observations and criticisms.
[Planter and Sugar Man.] Argentina, 1928. *The Author.*

Bugnion (E.). Les Glandes salivaires de l'Abeille et des Apiaires en général. Vauclauz, 1928. *The Author.*

Caesar (L.). The European Corn Borer.
[Ontario Dept. Agric., Bull. No. 334.] Guelph, Canada, 1928. *The Author.*

Cameron (M.). New Species of Staphylinidae from the Belgian Congo.
[Rev. Zool. Bot. Africaines, Vol. XVI, Fasc. I.] Ostende, 1928. *The Author.*

——— Staphylinidae from Mt. Poi and Mt. Penrissen, with descriptions of new species.
[Sarawak Mus. Jour., Vol. III, Part IV, No. 11.] Sarawak, 1928. *The Author.*

——— New Species of Staphylinidae from Borneo. Parts I, II.
[Sarawak Mus. Jour. Vol. III, Part IV, No. 2.] Sarawak, 1928. *The Author.*

Caudell (A. N.). Report on the Orthopteroid Insects collected by the Fiji–New Zealand Expedition from the University of Iowa.
[Univ. Iowa Studies Nat. Hist., Vol. XII, No. 3.] Iowa, 1927. *M. Burr.*

Chaudoir (Baron). Materiaux pour servir a l'étude des Carabiques. 3e partie. Moscow, 1863.
*H. E. Andrewes.*

Closs (A. and E. Hannemann). Die Grossschmetterlinge des Berliner Gebiets. 1. Band. Die Spinner, Schwärmer und Tagfalter.
[Berliner Entomologen-Bundes (E. V.).] Berlin, 1919. *Purchased.*

Cockerell (T. D. A.) and Harris (R. C.). The Wings of the Meloid Beetles.
[Proc. Bio. Soc. Wash., Vol. 38.] Washington, 1925.

Cockerell (T. D. A.). Some Bees, principally from Formosa and China.
[Amer. Mus. Novitates.] New York, 1927.

——— Supplementary Notes on Colorado Bees, with a list of all the Genera.
[Univ. Col. Stud., Vol. XVI, No. 2.] Colorado, 1928.

Coleman (Mrs. E.). Pollination of *Cryptostylis leptochila*, F.v.M.
[The Victorian Naturalist.] 1928. *Professor Poulton.*

Corporaal (J. B.). Entomologische Onderzolkingen van het Naardermeer, 1923–1926.
[Jaar. van de Vereeniging tot behoud van Nat. in Nederland.] Amsterdam, 1923–8.

Covell (Major G.). A Note on Variations of the Hind Tarsal markings in *Anopheles fuliginosus*, Giles, and *Anopheles ramsayi*, Covell.
[Ind. Jour. Med. Res., Vol. XV, No. 4.] Calcutta, 1928. *The Author.*

——— A Note on the Local Variations and Distribution of *Anopheles philippinensis*, Ludlow.
[Ind. Jour. Med. Res., Vol. XV, No. 4] Calcutta, 1928. *The Author.*

Davies (W. M.). The Bionomics of *Apion ulicis*, Först. (Gorse Weevil).
[" The Annals of Applied Biology," Vol. XV, No. 2, May, 1928.] *Dr. A. D. Imms.*

Didier (Dr. Robert). Études sur les Coléoptères Lucanides du Globe. Catalogue de sa Collection.
[La vie et l'oeuvre scientifique de H. Boileau, 1866–1924.] Paris, 1928.

Dover (C.) and Ribeiro (S.). A List of the Indian Cicindelidae with Localities.
[Rec. of Indian Museum, Vol. XXV, Part III, pp. 345–363.] Calcutta, 1923.
*H. E. Andrewes.*

Drake (C. L.). Some Tingitidae (Heteroptera) from Honduras.
[Occasional papers Mus. Zool., No. 190, University of Michigan.] Michigan, 1928.

Elliott (E. A.). New Stephanidae from Borneo and the Philippine Islands, IV, V.
[Phil. Jour. Sci., Vol. 35, No. 4; Vol. 36, No. 1.] Manila, 1928. *The Author.*

Emden (Fritz van). Zur Kenntnis der Sandalidae, VII (Die Gattung *Chamaerhipis*, Latr.).
[" Entomologische Blätter," XXIII.]. Berlin, 1927. *H. E. Andrewes.*

——— Ein neuer *Euplatyrhopalus* (Coll. Pauss.).
[" Entomologische Blätter," XXIII.] Berlin, 1927. *H. E. Andrewes.*

Evans (J. W.). Notes on *Nesomachilis maoricus*, Tillyard, with particulars of a new sense-organ.
[Trans. N.Z. Inst., Vol. 58.] Wellington, 1927. *The Author.*

Ewing (H. E.). The Scorpions of the Western Part of the U.S., with notes on those occurring in Northern Mexico.
[No. 2730, Proceedings of U.S. Nat. Museum, Vol. 73, Art. 9, pp. 1–24, with pls. 1, 2.] Washington, 1928.

Fenton (F. A.) and Dunham (E. W.). Dispersal of the Cotton Boll Weevil, *Anthonomus grandis*, Boh.
[Jour. Agric. Res., Vol. 36, No. 2.] Washington, 1928. *Presented.*

Fletcher (T. Bainbrigge). Catalogue of Indian Insects. Part 16—Cosmopterygidae; 17—Yponomeutidae. Calcutta, 1928. *Presented.*

Fleutiaux (F.). Faune des Colonies Françaises. Les Elatérides de L'Indo-Chine Française. Paris, 1927. *H. E. Andrewes.*

Fryer (J. C. F.), Tattersfield (F.), and Gimingham (C. T.). English-grown Pyrethrum as an Insecticide, 1.
[Ann. Applied Biology, Vol. XV, No. 3.] Cambridge, 1928. *The Authors.*

Fuhrer (G.). Durch die naturwissenschaftliche Abteilung des Dommuseums zu Riga.
[Sammlungen des Naturforschen-Vereins zu Riga.] Riga, 1923.

Gable (C. H.), Baker (W. A.), and Woodruff (L. C.). The Sorghum Midge, with suggestions for its Control.
[U.S. Dept. Agric., Farmers' Bull. No. 1566.] Washington, 1928.

Galvagni (E.) and Preissecker (F.). Die Lepidopterologischen Verhältnisse des nied. oest. Waldviertels. 1.2.3.4 Tiel. Wien, 1912, 1913, 1914. *Purchased.*

GIMINGHAM (C. T.), MASSEE (A. M.), and TATTERSFIELD (F.). A Quantitative Examination of the Toxicity of 3 : 5-Dinitro-*o*-cresol and other compounds to insect eggs, under Laboratory and Field conditions.
[Ann. Applied Bio., Vol. XIII, No. 3.] Cambridge, 1926. *The Authors.*

GIMINGHAM (C. T.) TATTERSFIELD (F.), and FRYER (J. C. F.). English-grown Pyrethrum as an Insecticide, 1.
[Ann. Applied Biology, Vol. XV, No. 3, Aug.] Cambridge, 1928. *The Authors.*

GOURLAY (E. S.). A New Species of Hymenoptera of the family XIPHYDRIIDAE.
[Trans. N.Z. Inst., Vol. 58.] Wellington, 1927. *The Author.*

——— A Note on the variety of the Proctotrypoid genus *Tanyzonus*, Marshall.
[Trans. N.Z. Inst., Vol. 58.] Wellington, 1927. *The Author.*

HANITSCH (R.). Spolia Mentawiensia : BLATTIDAE (with an introduction by C. Boden Kloss).
[Bull. Raff. Mus., No. 1.] Singapore, 1928.

HEBARD (M.). Expedition of the California Academy of Sciences to the Gulf of California in 1921. The Dermaptera and Orthoptera.
[Proc. Cal. Acad. Sci., Ser. 4, Vol. XII.] California, 1923. *M. Burr.*

HOPPING (G. R.). The Western Cedar Borer (*Trachykele blondeli*, Mars.).
[Dom. Can. Dept. Agric., Pamphlet 94, New Series.] Ottawa, 1928.

HORN (W.). Zur Kenntnis der Gattung *Cicindela* (Col.).
[Deutsch. Ent. Zeitschr.] Berlin, 1907. *H. E. Andrewes.*

——— A New Subspecies of Philippine CICINDELIDAE.
[Phil. Jour. Sci., Vol. II, No. 1, Sec. A.] Manila, 1907. *H. E. Andrewes.*

——— *Prothyma schultzei.* A New Species of Philippine CICINDELIDAE.
[Phil. Jour. Sci., Vol. III, No. 4, Sec. A, Gen. Science.] Manila, 1908.
*H. E. Andrewes.*

——— XLI. Six new CICINDELINAE from the Oriental Region.
[Records of the Indian Museum, Vol. II, Part IV, No. 41.] Calcutta, 1908.
*H. E. Andrewes.*

——— XVII. Descriptions of three new CICINDELINAE (Coleoptera) from Borneo.
[Rec. Ind. Mus., Vol. III, Part III, p. 259.] Calcutta, 1909. *H. E. Andrewes.*

HORN (Dr. W.) and ANNANDALE (N.). Annotated List of the Asiatic Beetles in the Collection of the Indian Museum. Part I. Family CARABIDAE, Subfamily CICINDELINAE. Calcutta. *H. E. Andrewes.*

HUFF (C. G.). Nutritional Studies on the Seed-Corn Maggot *Hylemyia cilicrura*, Rondani.
[Jour. Agri. Res., Vol. 36, No. 7.] Washington, 1928.

INOMATA (S.). Suggestions to the Fourth International Congress of Entomology at Cornell University, Ithaca, New York, U.S.A., August 12–18, 1928. Ithaca, 1928.
*The Author.*

JANSE (A. J. T.). A Revision of the S. African METARBELINAE.
[S.A. Journal Nat. Hist., Vol. V, pp. 61–100.] Pretoria, 1925. *The Author.*

——— Continuous Archigony and its bearing on evolution and classification.
[S.A. Jour. Nat. Hist., Vol. VI, No. 3, pp. 204–215.] Pretoria, 1928. *The Author.*

JOHNSTON (H. B.). A further Contribution to our knowledge of the Bionomics and Control of the Migratory Locust, *Schistocerca gregaria*, Forsk. (*peregrina*, Oliv.), in the Sudan.
[Wellcome Tropical Research Laboratories, Ent. Sect. Bull. No. 22.] Khartoum, 1926.
*M. Burr.*

KENNEDY (C. H.). The Exoskeleton as a factor in limiting and directing the Evolution of Insects.
[Jour. Morph. Phys., Vol. 44, No. 2.] Philadelphia, Pa., 1927. *The Author.*

——— Evolutionary Level in relation to Geographic, Seasonal and Diurnal Distribution of Insects.
[Ecology, Vol. IX, No. 4.]. Lancaster, Pa., 1928. *The Author.*

LACKSCHEWITZ (Dr. P.). Der Formenkreis der *Tipula lateralis*, Meig. (S. lat.) im Ostbaltischen Gebiet.
[Arb. des Nat. Ver. Riga, Neue Folge, Heft XV.] Riga, 1923.

——— Neue Limnobiiden und Tipuliden aus dem Ostbaltikum.
[Arb. des Nat. Ver. Riga, Neue Folge, Heft XVI.] Riga, 1925.

MASSEE (A. M.). The Control of the Black Currant Gall Mite (*Eriophyes ribis*, Westw., Nalepa).
[Ann. Rep. E. Malling Res. Stat.] Maidstone, June 1926. *The Author.*

——— Winter Washes : modern Developments in their use.
[15th Ann. Rep. E. Malling Res. Stat.] Maidstone, 1928. *The Author.*

——— The Control of the Apple Blossom Weevil (*Anthonomus pomorum*, L., Curt.).
[Jour. Pomo. Hort. Sci., Vol. IV, No. 1.] U.S.A., 1928. *The Author.*

Marelli (C. A.). Estudio sobre una peste de Los Eucaliptos descubierta en la Argentina.
[Mem. del Jardin Zool. Plata (Rep. Argentina), Tomo III, pags 51 a 183, Lam. XIX a XXVIII.] La Plata, 1928. *The Author.*

McGregor (F. A.) and Newcomer (E. J.). Taxonomic status of the Deciduous-fruit Mite, *Paratetranychus*, with reference to the Citrus mite (*P. citri*).
[Jour. Agri. Res., Vol. 36, No. 2.] Washington, 1928. *Presented.*

Mellor (J. E. M.). Wax Moths (*Galleria mellonella*, L., and *Achrocia grisella*, Fb.), the larvae of which are known in Egypt as Did El Sham'a or Etta.
[Min. Agric. Egypt, Plant Pro. Sect., Leaflet No. 2.] Cairo, 1928.

Mickel (C. E.). Biological and Taxonomic Investigations on the Mutillid Wasps.
[Smithsonian Institute, U.S. Nat. Museum, Bull. 143.] Washington, 1928. *Exchange.*

Morrison (H.). A Classification of the higher Groups and Genera of the Coccid family Margarodidae.
[U.S. Dept. Agric., Washington, D.C., Tech. Bull. No. 52.] Washington, 1928.

Nagel (P.). XVII. On a Collection of Stag-Beetles (Fam. Lucanidae) from Sarawak.
[Sarawak Museum Journal, Vol. III, Part III, No. 10.] Hanover, 1924. *The Author.*

——— Dr. E. Mjöberg's Zoological Collections from Sumatra, 4. Lucaniden.
[Arkiv. För Zoologi, Band 18, A, No. 12.] Uppsala, 1925. *The Author.*

——— Das Rätsel der Trilobitenlarve.
[" Entom. Blätter," XXII, 173.] Berlin, 1927. *The Author.*

——— Neues über Hirschkäfer (Col. Lucanidae).
[" Entom. Blätter," XXIII, 145.] Berlin, 1927. *The Author.*

——— Über einen neuen Riesenkäfer (*Goliathus meleagris*) aus Süd-Kongo.
[" Entom. Blätter," XXIV, 69.] Berlin, 1928. *The Author.*

Needham (J. G.), Calvert (P. P.) Walker (E. M.), and Davis (Wm. T.). A List of the Insects of New York, Order Odonata.
[Mem. 101, Corn. Univ. Agr. Exp. Sta.] Ithaca, 1928. *Imp. Bur. Ent.*

Northrop (S. A.). Beetles from the Fox Hills, Cretaceous Strata of South Dakota. With an Appendix by T. D. A. Cockerell.
[Amer. Jour. Sci., Vol. XV.] New Haven, Conn., U.S.A., 1928.

Ogilvie (L.). The Insects of Bermuda.
[Department of Agriculture, Bermuda, 1928.] *The Author.*

Osborn (H.). The Leafhoppers of Ohio.
[Ohio Biological Survey, Bull. 14, Vol. III, No. 4; Ohio State Univ., Bull., Vol. XXXII, No. 27.] Columbus, 1928. *The Author.*

Oyarzun (Dr. A.). Materias colorantes de los tegumentos de los insectos.
[Bol. Acad. Chil. biencias Naturales.] Santiago de Chili, 1928. *A. Faz.*

Packard (C. M.). The Hessian Fly in California.
[U.S. Dept. Agric., Tech. Bull. No. 81.] Washington, 1928.

Pearman (J. V.). Life History of *Psocus sexpunctatus* (Linn.).
[Proc. Bris. Nat. Soc., 4th S., Vol. VI, Part V.] Bristol, 1927. *The Author.*

Porter (C. E.). Notas Entomologicas.
[Rev. Chil. Hist. Nat. Ano. XXX, 1926.] *The Author.*

——— El *Margarodes vitium*, Giard. (Notes Sinonimicas, Zoogeogrãficas y Bibliograficas.)
[Bol. Soc. Entom. Argentina, No. 3, aña—Pags 1–8.] Buenos Aires, 1927.

——— Sobre un Fásmido poco comūn en las colecciones.
[Rev. Chil. His. Nat. Año. XXXII.] Santiago, 1928. *The Author.*

——— Cecidiologia Chilena. Breve resēna histórica y bibliográfica acerca de las " agallas del Colliguay (*Colliguaya odorifera*, Mol.).
[Rev. Chil. His. Nat. Año. XXXII.] Chile, 1928. *The Author.*

Raciecka (Marja). O unerwieniu skrzydel u Rhopalocera.
[Travaux L'Inst. Zool.] Wilno, 1928. *The Author.*

Raff (Janet W.). Hatching process of Cicada.
[Vic. Nat., Vol. XLIII.] 1928. *The Author.*

Reed (Carlos S.). Concordancias en el colorido de diversos insectos de la fauna chilena.
[Rep. de Chili, Min. de Fomento Jardin Zool. Nac.] Sto. Domingo 1928. *A. Faz.*

Remy (P.). Arthropodes terrestres récoltés au Groenland au cours de lu croisière du " Ponrquoi-pas " en 1926.
[Bull. Soc. Linn., VII, 51–53.] Lyon, 1928.

Ribbe (C.). Die Grossschmetterlings-Fauna des Königreiches Sachsen. 2 plates.
[" Iris," XVIII, Heft 1; XXXVI, Heft 1.] Dresden, 1905–1922. *Purchased.*

Ruthven (A. G.). Notes on the Genus *Lepidoblepharis* (*Peracca*), with description of a new subspecies.
[Occasional papers of the Museum of Zoology, Univ. Michi., No. 191.] Michigan, 1928.

Sievers (H. K.). Apariciôn de la larva de *Hypoderma bovis* en Chile.
[Rev. Chil. His. Nat. Año. XXXII.] Chile, 1928. *Dr. C. E. Porter.*

Sinton (J. A.). Notes on some Indian species of the genus *Phlebotomus*. Parts XIX–XXII.
[Ind. Jour. Med. Res., Vol. XV, No. 1] Calcutta, 1927–1928.

Sinton (J. A.) and Covell (C.). The relation of the Morphology of the Buccal Cavity to the classification of Anopheline Mosquitoes.
[Ind. Jour. Med. Res., Vol. XV, No. 2.] Calcutta, 1927.

Schwanwitsch (B. N.). Pierellisation of Stripes in the Wing-Pattern of the genus *Rhaphicera*, Btl. (Lepidoptera Satyridae).
[Zeit. fur Morp. Okol. der Tiere (Abt. Zeit. Wiss. Bio.). 11 Bd., 1–2 Heft.] Berlin, 1928. *The Author.*

Searls (Ed. M.). A simple method for Life-History Studies of Root-Feeding Arthropods.
[Journal of Agricultural Research, Vol. 36, No. 7.] Washington, D.C., 1928.

Senior-White (R.). Algae and the food of Anopheline larvae.
[Ind. Jour. Med. Res., Vol. XV, No. 4.] Calcutta, 1928.

Skuse (F. A. A.). On a Case of Presumed Protective Imitation.
[Records of the Australian Museum, Vol. II, No. 6.] Sydney, 1895. *The Author.*

Snapp (O. I.). Insects attacking the Peach in the South and how to control them.
[U.S. Dept. of Agric., Farmers' Bull. 1557.] Washington, 1928.

Stuardo (C.). Notas Entomológicas, Observaciones sobre la metamorfosis de *Colemegilla 4-fasciata* var. *18-pustulata* (Muls.) Ckll.
[Rev. Chil. His. Nat. Año. XXXII.] Santiago, 1928. *Dr. C. E. Porter.*

Swaine (J. M.). Forest Entomology and its development in Canada.
[Dom. Canada Dept. Agric., Pamphlet No. 97.] Ottawa, 1928.

Takahashi (R.). Coccidae of Formosa (2).
[Trans. Nat. Hist. Soc., XVIII, 97, Formosa.] Formosa, 1928.

Theobald (F. V.]. The Apple Leaf Skeletoniser (*Hemerophila pariana*, Clerck.)
[A. E. Agri. Coll. Wye (Ad. & Res. Dep.), Bull. 7, 1928.] Wye, 1928. *The Author.*

Tschitschérine (T.). Revision du sous-genre *Bothriopterus*, Chaud. (genre *Platysma*, Bon., Tsch.). Moscow, 1900. *H. E. Andrewes.*

——— Insecta, A. Cl. G. N. Potanin in China et in Mongolia, Novissime, Lecta. Insectes *Pterostichus*. Rapportes par M. Potanin de son voyage, fait VI.
[Hor. Soc. Ent. Ross., XXII.] St. Petersburgh, 1884–6. *H. E. Andrewes.*

——— Description de deux nouvelles espèces du genre *Bembidium*, Latr.
[Hor. Soc. Ent. Ross., XXIX.] *H. E. Andrewes.*

——— Mémoire sur le genre *Trichocellus* (Ganglb).
[Hor. Soc. Ent. Ross., XXXII.] St. Petersburg, 1898. *H. E. Andrewes.*

——— Description de quelques nouvelles espèces de la Tribu des Platysmatini.
[Hor. Soc. Ent. Ross., XXXV.] St. Petersburg, 1900. *H. E. Andrewes.*

——— Notes sur quelques Platysmatini de la région Malgache.
[Hor. Soc. Ent. Ross., XXXIV.] St. Petersburg, 1900. *H. E. Andrewes.*

——— Note sur quelques espèces de la Tribu des Scaritides.
[Hor. Soc. Ent. Ross., XXVIII.] St. Petersburg. *H. E. Andrewes.*

Wigglesworth (V. B.). Digestion in the Cockroach. III. The digestion of proteins and fats.
[Biochemical Jour., Vol. XXII, No. 1, pp. 150—161.] London, 1928. *The Author.*

## LIST OF LIBRARY DESIDERATA.

Int. Entomologische Zeitschrift. Vol. I.

Entomologische Rundschau. Early volumes.

Rev. Mensuelle Soc. d'Ent. Namouroise. 1898, 1899, 1900, 1903.

Deutsches Entomologische Zeitschrift. 1915.

Bulletin of the Brooklyn Ent. Soc. Vol. II. 1879–80, No. 4.

Entomologist. 1918.

Berlin Magazin. Vol. III.

Freyer's Beitrage. Vol. III.

Walker's Catalogue of Lepidoptera in the B.M. Vol. VIII.

Jahresbericht Wiener Entomologische Vereins.

Leech's "Butterflies of China, etc." Vol. of plates.

Oken's Iris. 1845.

# BENEFACTIONS.

*List of Donations of the amount or value of Twenty pounds and upwards.*

### 1852.

Miss BROMFIELD, 67 volumes from the library of W. A. Bromfield.

### 1861.

H. T. STAINTON, £25.*

### 1864.

J. W. DUNNING, £123 5*s*.

### 1867.

The same, towards cost of publications, £105.

### 1868.

H. J. FUST, towards the cost of his paper on Geographical Distribution, £25.
The ROYAL SOCIETY, for the same, £25.

### 1869.

J. W. DUNNING, £50.
W. W. SAUNDERS, cost of drawing and engraving 24 plates for Pascoe's "Longicornia Malayana."

### 1870.

J. W. DUNNING, £20.
The same, the entire stock of eight vols. of the Transactions.

### 1872.

The same, towards cost of publications, £50.

### 1875.

The same, cost of removal of Library and new book-cases, £99 17*s*. 4*d*.

### 1876.

The same, towards cost of publications, £150.

### 1879.

H. T. STAINTON, £20 10*s*. 6*d*.

### 1880.

The same, £20.

### 1881.

J. W. DUNNING, towards cost of publications, £40.
H. T. STAINTON, for the same, £25.

### 1882.

The same, £30.

### 1883.

The same, £35.

### 1884

J. W. DUNNING, £50.
H. T. STAINTON, £40.
W. B. SPENCE, his late father's library.

### 1885.

J. W. DUNNING, £35.
The same, the whole cost of the Society's Charter.

---

* It has not always been possible to find the exact purpose for which the earlier money gifts were intended, but they appear to have been usually in support of the publications.

**1893.**

The same, towards cost of publishing the Library Catalogue, £25.

**1894.**

The same, £45.

The Misses SWAN, £250 for the "Westwood Bequest," the interest to be used for plates in the Transactions.

F. D. GODMAN (in this and subsequent years), "Biologia Centrali-Americana."

**1898.**

Mrs. STAINTON, about 800 volumes and pamphlets from H. T. Stainton's Library.

**1899.**

S. STEVENS, legacy, £100.

**1902.**

G. W. PALMER, M.P., towards cost of printing G. A. K. Marshall's paper on the Bionomics of African Insects, £30.

Prof. E. B. POULTON, towards cost of plates, £65.

**1903.**

H. J. ELWES, cost of plates to illustrate his paper on the Butterflies of Chile, £36 18*s.* 2*d.*

F. D. GODMAN, cost of plates to illustrate his paper on Central and S. American Erycinidae.

**1904.**

H. L. L. FELTHAM, towards cost of plates for R. Trimen's paper on S. African Lepidoptera, £20.

**1906.**

The same, towards cost of plates for R. Trimen's paper on African Lepidoptera, £20.

**1908.**

E. A. ELLIOTT (in this and subsequent years), Wytsman's "Genera Insectorum."

**1909.**

Ch. OBERTHÜR (in this and subsequent years), his "Lépidopterologie comparée."

**1910.**

Dr. T. A. CHAPMAN, towards cost of plates for his papers on Life-histories of Lepidoptera, £25.

**1911.**

Sir G. KENRICK, Bart., cost of plates for his paper on Butterflies of Dutch New Guinea, £54.

**1912.**

Dr. T. A. CHAPMAN, cost of plates for his papers on Life-histories of Lepidoptera, £35 6*s.* 5*d.*

**1913.**

The ROYAL SOCIETY, towards the publication of D. Sharp's paper on the Genitalia of Coleoptera, £60.

**1914.**

F. D. GODMAN, cost of plates for G. C. Champion's papers on Mexican and Central American Coleoptera, £22 7*s.* 6*d.*

G. T. BETHUNE-BAKER, cost of 12 plates illustrating his Presidential Address.

**1915.**

J. J. JOICEY, cost of plates for his papers on Lepidoptera from Dutch New Guinea, £82 11*s.*

Dr. G. B. LONGSTAFF, cost of plates for Dr. Dixey's paper on New Pierines, £32.

Prof. R. MELDOLA, legacy (subject to the life-interest of Mrs. Meldola), £500.

**1916.**

Dr. T. A. Chapman, for plates, £68 7*s*. 3*d*.

**1917.**

Mrs. Meldola, for books for the Library, £31 10*s*.
E. E. Green, large binocular microscope.

**1919.**

Dr. T. A. Chapman, F.R.S., cost of plates to illustrate his papers, £56 19*s*. 3*d*.

**1920.**

Donations in aid of the purchase of 41 Queen's Gate—
  Dr. G. B. Longstaff, £1000.
  The Honble. N. C. Rothschild, £500.
  Dr. H. Eltringham, Sir G. H. Kenrick, The Rev. F. D. Morice, W. G. Sheldon, each £100.
  R. Adkin, G. T. Bethune-Baker, Dr. T. A. Chapman, W. M. Christy, H. Massey, Prof. E. B. Poulton, each £50.
  B. H. Crabtree, E. E. Green, Dr. G. A. K. Marshall, G. A. J. Rothney, each £25.
  H. E. Andrewes, £21.
  H. J. Elwes, E. B. Nevinson, G. T. Porritt, O. Whittaker, each £20.
Dame Alice Godman, book-shelves and fittings for the Library.
J. J. Joicey, in aid of the furnishing of 41 Queen's Gate, £100.
Dr. T. A. Chapman, F.R.S., cost of plates to illustrate his paper, £30.

**1921.**

Donations in aid of the purchase of 41 Queen's Gate—
  The Rt. Hon. Lord Rothschild, £105.
  W. M. Christy, £50, making with a similar donation in 1920, £100 in all.
  W. G. F. Nelson, £63, reduction of solicitor's charges.
  W. J. Kaye, £50.
  W. Schmassman, £50.
  R. Adkin, £40, cancellation of debentures drawn.
  E. C. Bedwell, £28 7*s*. 6*d*., reduction of surveyor's charges.
  H. Willoughby Ellis, £26 5*s*.
  Lt.-Col. R. S. Wilson, £25.
  H. St. John Donisthorpe, £21.
  Miss E. F. Chawner, £20.
  Sir John T. D. Llewelyn, Bart., £20.
  K. J. Morton, £20.
J. J. Joicey, Lantern and Stand for the Meeting Room.
Dr. T. A. Chapman, F.R.S., £29 5*s*., to illustrate his paper in the Transactions, 1920.
The Rt. Hon. Lord Rothschild, £22 15*s*. 4*d*., cost of plates in the Proceedings for 1920.
Jesus College, Oxford, through Prof. E. B. Poulton, F.R.S., £100.

**1922.**

Donations in aid of the purchase of 41 Queen's Gate—
  The Misses Chapman, in memory of their brother, the late Dr. T. A. Chapman, F.R.S., £500.
  G. A. J. Rothney (bequest), £150.
  R. Adkin, £70, cancellation of debentures drawn.
  E. E. Green, £25 (making £50 in all).
  W. H. B. Fletcher, £25.
  Sir A. Buchan-Hepburn, Bart., £20.
  E. W. Adair, £20.
The Misses Chapman, two bookcases.

**1923.**

Donations in aid of the purchase of 41 Queen's Gate—
  N. C. Rothschild (bequest), £1000.
  R. Adkin, £90, cancellation of debentures drawn (making £200 in all).
  A. C. F. Morgan, £20.
  H. J. Turner, £20.

### 1924.

Donations in aid of the purchase of 41 Queen's Gate—
  E. B. Bostock, £21.
  Miss M. E. Fountaine, £20.
H. H. C. Druce (bequest £1000), interest to be spent on new books.
Prof. E. B. Poulton, F.R.S., authorised contribution from the Fund for promoting the study of organic and social evolution, presented to the University of Oxford by Professor J. Mark Baldwin, £130 15*s.* 4*d.*
Jesus College, Oxford, through Prof. E. B. Poulton, F.R.S., £125.
H. Willoughby Ellis, contribution towards new electric light installation at 41 Queen's Gate, £50.

### 1925.

A. H. Jones (bequest) £100.
G. T. Bethune-Baker, £30, towards the cost of the plates in his paper.
E. A. Elliott, in continuation of his practice since 1908, Wytsman's "Genera Insectorum," amounting to a total value of £225.
The Royal Society, £100, towards the cost of Mr. H. S. Pruthi's paper.

### 1926.

The Royal Society, £150, towards the cost of Mr. Warren's paper.

### 1927.

Rev. F. D. Morice (bequest) £200.
Prof. E. B. Poulton, F.R.S., authorised contribution from the Fund for promoting the study of organic and social evolution, presented to the University of Oxford by Professor J. Mark Baldwin, £40 16*s.*

### 1928.

Col. J. W. Yerbury (bequest) £50.

*misippus*, L., presented to the Hope Department by the late Mr. J. W. Tutt, were part of swarms which invaded the sailing ship "Winefred" on 5 and 9 May, 1893. Capt. E. P. Ellis had informed him that "the ship was then nearly on the line between Cape St. Roque and Sierra Leone, and 580 miles from the former, 960 from the latter"—viz. the land from which the butterflies had come (*Ent. Record*, vol. xii, 1900, pp. 315, 316). It now seemed probable that these insects, of which a male and examples of both forms of female were exhibited, had been helped on their long journey of nearly a thousand miles by resting on the surface of the water.

Mr. C. L. COLLENETTE said: "In the Gulf of Panama in the year 1924 I saw a specimen of the hawk moth *Sesia titan*, Cram., alight on or fall into the sea during the daytime, remain on the surface for two or three seconds, and then rise and fly off. This happened close to the side of a sailing ship becalmed in still water, and several miles from land. The same species came frequently to lights on the ship in the Gulf of Panama, and the specimen in question had probably been disturbed while sheltering on the vessel.

AN OBSERVATION CONFIRMING DR. V. G. L. VAN SOMEREN'S SUGGESTION THAT THE ♀ f. *CEDREATIS*, HEW., OF *CHARAXES ETHEOCLES*, CRAM., IS A MIMIC OF TWO COMMON SPECIES OF *EUPHAEDRA*.—Prof. POULTON said that a recent letter from his friend Dr. van Someren contained the following interesting passage referring to his recent experiences in the neighbourhood of Jinja, Uganda:—

"15 *August*, 1928.—You will be interested to hear that the commonest female form of *Ch. etheocles* was *cedreatis* and always in localities where *Euphaedra* was plentiful. One day I called to my boy to catch a large female *Ch. bipunctatus*, Rothsch., which was flying past him about ten yards away: he replied, 'Do you really want that large "Dudu ya chini"?' viz. ground-butterfly—meaning *E. losinga inaequabilis*, Thurau. I dashed after it and caught—a *cedreatis!* The boy had been quite misled, although he is a very keen observer, far better than myself."

Dr. V. van Someren's account of this mimetic association, which includes also the females of *Ch. t. tiridates*, Cram., *n. numenes*, Hew., *bipunctatus*, and both sexes of *Euphaedra spatiosa*, Mab., and another *Euphaedra*, is published in *III Internat. Ent.-Kongr.*, Zürich, Weimar, 1926, p. 545.

THE FLIGHT OF THE PERFECT MALES AND FEMALES OF ANTS AND TERMITES RECOGNISED BY H. W. BATES AS AN ADAPTATION TO ENSURE INTERCROSSING.—Prof. POULTON said that, in writing on the subject recently, he had felt sure that the importance of this adaptation was recognised by the older naturalists, but had not been able to find a suitable passage. Within the last few weeks, however, he had come across the following clear statement in the *Naturalist on the Amazons* (5th ed., Lond., 1879, p. 13):—

"This winged state of the perfect males and females, and the habit of flying abroad before pairing, are very important points in the economy of ants; for they are thus enabled to intercross with members of distant colonies which swarm at the same time, and thereby increase the vigour of the race, a proceeding essential to the prosperity of any species."

A similar but less clear recognition of this adaptation in Termites appears on p. 109.

### *Papers.*

The following papers were read :—

1. " The Arctiidae, Noctuidae and Sphingidae of the ' St. George ' Expedition," by Mr. C. L. Collenette.

2. " The Microlepidoptera of the ' St. George' Expedition," by Mr. E. Meyrick.

3. " Varieties of British Lepidoptera in the Hope Department, Oxford University Museum," by the late Mr. F. C. Woodforde, B.A., Exeter College, Oxford, in collaboration with Mr. E. B. Ford and Mr. L. B. Prout.

4. " Insect Nutrition and Metabolism. A Summary of the Literature," by Mr. B. P. Uvarov.

---

## Wednesday, October 17th, 1928.

Mr. J. E. Collin, President, in the Chair.

### *Exhibits.*

Notes on British Hymenoptera.—Dr. J. Waterston exhibited and made remarks on :—

(*a*) A comb of the Hive Bee (*Apis mellifera*, L.) formed on a hawthorn twig (*Crataegus*) in Hampshire during the temporary settling of a swarm.

(*b*) A Queen Wasp (*Vespa vulgaris*, L.) with a large parasitic worm (*Mermis pachysoma*, Von Linstow), which had issued from the abdomen of its host, from Somersetshire.

Specimens illustrating methods of oviposition in the Psocoptera.—Mr. J. V. Pearman said : " The exhibit consists of the egg-deposits of nineteen species of Psocids exemplifying the different methods of oviposition which have been described in *Ent. Mo. Mag.*, September 1928.

" On biological considerations Psocids can be divided roughly into two groups : (*a*) foliage species and (*b*) bark and rock-face species, and the mode of life affects the habit of egg-disposal. As is well known, Psocids are able to produce a silken thread like that of a caterpillar, and many species weave either extensive shelter webs or small egg-protecting webs. Contrary to accepted opinions, the habit of covering the eggs with a patch of web is almost entirely restricted to the foliage species. In addition to the web immediately overlying the eggs, when circumstances permit, a second roofing web is constructed above the egg-mass, but whereas the lower web consists of numerous inter-crossing threads the upper web is composed of threads spun transversely across the ' valley ' in which the eggs lie. One species, *Ectopsocus briggsi*, McL., goes a step further and, using its anus, smears the lower web with an intestinal air-drying secretion containing particles of digestive rejectamenta. Usually only a thin sprinkling of dirty particles is spread over the web, but a female in captivity forced to feed on bark plastered its webs with a close layer of fine, flaky, wood fragments (one of these egg batches exhibited).

"The bark- and rock-inhabiting species almost universally dispense with the web and conceal their eggs under a coating of fine particles of bark, grit, or pleurococcus. Like the web-smear of *Ectopsocus briggsi*, the egg coatings are derived from intestinal excreta applied by the anus, but the chief interest lies in the fact that the substances utilised are scraped up with the mandibles and swallowed, passing rapidly through the alimentary tract unaltered. In the British species observed the females applied the coating to each egg separately as it was laid, but an observation made by Jacobson on a Javanese species showed that the plaster was added after the full number of eggs had been deposited. The exact nature of the egg-coating varies according to the genus, and there is a further variation in the manner of disposal, some species dropping their eggs at random, others placing them in definitely aggregated groups. One species, *Mesopsocus unipunctatus*, Mull., retains the web-spinning instinct and constructs a closely-woven sheet over its cement-embedded eggs.

"There is one quite anomalously behaving species, *Trichopsocus dalii*, McL. This is a foliage species, yet its eggs have a coating like that of the bark species; moreover, it often strings its eggs on silken lines stretched across a leaf-fold.

"A few species, some of them bark dwellers, others occurring in houses and stores, leave their eggs without any protective device."

The egg-deposits exhibited were those of the following species—(*a*) With protective webs, *Caecilius fuscopterus*, Latr., *Stenopsocus immaculatus*, Steph.; (*b*) with applied coatings, *Bertkauia lucifuga*, Ramb., *Elipsocus westwoodi*, McL., *Mesopsocus unipunctatus*, Mull., *Peripsocus parvulus*, Kolbe, *Philotarsus flaviceps*, Steph., *Psocus bifasciatus*, Latr., *P. longicornis*, Fabr., *P. nebulosus*, Steph., *P. sexpunctatus*, L., *P. variegatus*, Latr., *Trichopsocus dalii*, McL.; (*c*) without protection, *Clothilla pulsatoria*, L., *Hyperetes guestfalicus*, Kolbe, *Lepidilla kelloggi*, Rib., *Lepinotus inquilinus*, Heyd., *Nymphopsocus destructor*, Endl., *Pterodela pediculária*, L.

VARIETIES OF *MELITAEA CINXIA*.—Col. F. A. LABOUCHERE said: "About the middle of April, I received from the I. of Wight one dozen larvae of *M. cinxia* which pupated between the 20th and 30th of that month. The first two imagos appeared on the 24th May and were normal; a few days later the breeding-case, a glass cylinder one, was upset and completely smashed—of the ten pupae remaining one was parasitised, two were crushed, and five emerged cripples. The last two emerged on the 12th June and proved to be varieties. They had been six weeks in the pupal state, which might possibly have some effect on the pigmentation cells, or the variation may have been connected with the shock when the cage fell. In any case the percentage was extremely high, especially as the insect in question is not very much given to variation."

A REMARKABLE NEW CECIDOMYIID FLY.—Mr. F. W. EDWARDS exhibited a specimen of a gall-midge remarkable on account of its very long neck and curiously modified mouth-parts. The specimen was recently presented to the British Museum by Dr. C. P. Alexander, and it belongs to the genus *Megauchomyia*, described only this year by Felt (*Journ. N.Y. Ent. Soc.*, xxxvi, p. 123, 1928). The material described by Felt was collected by Bequaert in Liberia, both sexes being found hovering over Coccids, and Felt suggested that "the peculiar structure of the mouth-parts indicates a possibility that they were attracted by honey-dew secreted by the scale insects." The allied genus *Farquharsonia*, Collin, in which the mouth-parts are similarly modified, has the habit of stealing food from *Cremastogaster* ants (*vide Trans. Ent. Soc. Lond.*, 1921, p. 439). Unfortunately nothing has been noted regarding the habits of the present species, which is evidently new and may be diagnosed thus :

### **Megauchomyia manicata,** sp. n.

♀. Similar to *M. africana*, Felt, in structural characters, except that ocelli appear to be absent; the antennae are rather shorter, each of the 12 flagellar segments being scarcely twice as long as broad; and the third vein ends practically in the wing-tip. Long black hairs are present all round the eye-margins, and not only ventrally. Neck blackish, rather longer and more slender than in *M. africana*. Thorax brownish-ochreous, scutellum and pleurae lighter; dorsocentral hairs long, sparse and black, as are the marginal bristles of the scutellum. Abdomen light ochreous, appearing brown dorsally owing to short dark hair; cerci black. Legs brownish, but the fifth tarsal segment and a large part of the fourth on all legs pure white. Wings with a slight brownish tinge, appearing darker apically owing to the denser hair; costa black. Halteres blackish.

Length of body, 4·7 mm.; thorax and abdomen alone, 3·8 mm.; wing, 4·5 mm.

CAMEROON : Mo Tyan, 17.viii.1923, 1 ♀ (*J. A. Reis*). Type in British Museum.

DARK-COLOURED PARASITISED PUPAE OF *PYRAMEIS CARDUI*, L., FOUND ON A BLACK IRON FENCE NEAR ST. HELENS, ISLE OF WIGHT.—Prof. POULTON said he had commented on the opinion that the golden appearance of *Aglais urticae*, L., pupae were caused by the presence of parasites (*Proc. Ent. Soc. Lond.*, II, 1927, pp. 27–29), and had shown that such brilliant pupae were normally produced on green leaves and stems while grey pupae may be parasitised. It was in fact concluded that the presence of parasites does not affect the power of colour-adjustment possessed by the larva in the prepupational period. He was therefore much interested to find that two *P. cardui* pupae on a black iron fence, each above a little clump of thistles, were extremely dark like their background, and yet also parasitised. The colour-adjustment had been recorded in the *Times* of 18 August, 1928, where the pupae were described as "the blackest . . . I have ever seen." The first pupa, found 29 July, 1928, produced on 5 August a Tachinid larva the imago of which (*Phryxe vulgaris*, Fall., ♀) emerged from the puparium on 21 August. Later on, after the *cardui* pupa had been put aside, 6 ♀ and 2 ♂ of *Pteromalus puparum*, L., emerged. The second *cardui* pupa, found a little later than the other, produced only Chalcids of the same species, kindly identified by Dr. Waterston ; the Tachinid from the first pupa, by Mr. C. J. Wainwright. Nearly all the Chalcids from the second pupa escaped, but the last to emerge, three small males, were secured.

The *cardui* pupae were taken from a fence near Priory House, St. Helens, Isle of Wight. It was interesting to note that the Tachinid larva emerged by a large hole at the base of the right pupal wings, while the Chalcids made their later exit from the same pupa by a small hole in the side of one of the mid-abdominal segments. The Chalcids emerged from the second pupa by a hole on the left side of the head and another near the anterior border of the mesothorax on the right side of and a little below the dorsal ridge. The specimens would be shown, it was hoped, at the next meeting.

REPEATED ATTACKS ON A EUPLOEINE BUTTERFLY BY A CAPTIVE BIRD.—Prof. POULTON called attention to an interesting note by the editor, Mr. C. M. Inglis, in the *Journal of the Darjeeling Natural History Society* (Vol. 2, No. 3, Dec. 1927, p. 54). A living *Euploea mulciber*, L., was placed in the cage of a Black-headed Sibia (*Leioptila c. capistreta*) which seized the butterfly "and battered it about for a bit and then dropped it; at first the butterfly didn't appear to be much the worse for this treatment, but the bird had by no means finished with it and kept on picking it up and battering it and dropping it till the insect was dead," when the bird took no more interest in it. Mr. Inglis points out that, although this butterfly was sacrificed, the experience might well have been advantageous to other examples of the same species; also that the bird had been brought up by hand and so "had not the benefit of parental teaching." It may also be added that an insectivorous species in confinement, and deprived of the amount and variety of insect food available in the wild state, was likely to be especially keen when such food was offered. In these circumstances the repeated attempts and ultimate failure to eat the butterfly afforded strong evidence of its distastefulness.

THE RESTING ATTITUDE OF THE ORIENTAL BUTTERFLY *KALLIMA*.—Mr. W. M. CRAWFORD communicated the following extract from a letter written, 14 April, 1928, by his son, Mr. W. G. Crawford, of the Indian Forest Service, then stationed in the Mu Division of Upper Burma :—

"I might mention an interesting thing I have noticed about the 'Leaf butterfly' (*Kallima*), of which there are quite a lot about, although my boy has brought in only three or four. They seem to be very fond of settling on the bole of a tree, generally out of reach, but always—as far as I have seen—with their heads pointing *down*. This I think is rather interesting. The only one I have seen here settle on a twig of a bush did the same. This position is after all most natural for a dead leaf, but withered leaves of different trees and shrubs have different ways of remaining attached. I wonder does the butterfly alter his method of resting to suit his choice of resting place? I must keep my eyes open."

Prof. POULTON said that he had been told by the late Col. Charles Swinhoe that *Kallima inachis*, Boisd., settles head downwards like a dead leaf hanging by its stalk (*Zoologist*, Dec. 1900, p. 551). A still earlier record is that of "EHA" (E. H. Aitken) in *Natural Science*, vol. ix, July–Dec. 1896, p. 299 :—" . . . I have noticed that the leaf-butterfly always alights head downwards, . . . [In pictures generally, and in the showcase at the British Museum (Natural History), the butterfly is turned the opposite way, facing upwards, . . . I never saw a *Kallima* sit in that position]." The words in square brackets, which generally indicate editorial authorship, were probably written by "EHA." Skertchly had also called attention to the method of settling adopted by leaf-like butterflies, which "fly rapidly along, as if late for an appointment, suddenly pitch, close their wings, and become leaves. It is generally done so rapidly that the insect seems to vanish" (*Ann. Mag. Nat. Hist.*, Sept. 1889, p. 209). Although the head-downward position had been recorded it appeared to be known to few, and most, if not all, the illustrations and exhibition cases showed the butterfly in the wrong attitude. Thus the Malayan *Kallima paralekta*, Horsf., is represented head upwards in Wallace's "Malay Archipelago" (7th ed., Lond., 1880, p. 131). It was therefore fortunate that Mr. W. G. Crawford had confirmed the observation and that attention had been directed to the subject.

## Wednesday, November 7th, 1928.

Mr. J. E. Collin, President, in the Chair.

### *Obituary.*

The President announced the deaths of Mr. J. Edwards and Mr. C. F. Johnson, Fellows of the Society.

### *Election of an Honorary Fellow.*

The following was elected an Honorary Fellow of the Society :—Dr. J. L. Reverdin of Geneva.

### *Election of Fellows.*

The following were elected Fellows of the Society :—Mrs. M. E. Walsh, Soekaboemi, Java; A. H. Wood, King's College, Cambridge; Major H. C. Jeddere-Fisher, Woodlands Corner, Littlehampton, Sussex; M. Octave Piel, Zi-ka-wei, near Shanghai, China; A. G. B. Russell, 88a, Cromwell Road, S.W. 7; W. H. Potts, Tsetse Research Team, Kondoa, Tanganyika Territory; Commander Wyndham Forbes, D.S.O., R.N., Naval & Military Club, 94, Piccadilly, W.1; Dr. A. Dampf, Chief Government Entomologist, Avenida Insurgentes, 171, Mexico D.F., Mexico.

### *Exhibits.*

Dr. S. A. Neave read a communication from Capt. J. C. Eales-White comprising correspondence from various sources recording the occurrence of *Colias edusa* in many parts of southern England in 1928.

Mr. Talbot said that this butterfly had also been unusually abundant on the Continent.

*Pachygastria* (*Bombyx*) *trifolii*, Esp. A correction.—Mr. K. G. Blair said : " I regret to find that a note given by me to Professor Poulton and quoted by him in our *Proceedings* for 16th Nov., 1927, was incorrect. I stated that I had 'failed to pair' bred examples of this species. I should have said that I had 'failed to observe a pairing,' though I sacrificed many specimens in the attempt. As, however, eggs then deposited hatched in the normal manner in April, one must assume that one or more pairings did actually take place though unobserved by me. The fact that the eggs failed to hatch in the autumn I regarded at the time as evidence of their infertility; it was only on finding the young larvae all dead at the end of April that I realised that the spring is the normal time of hatching in this species."

The migratory flight of the Nymphaline butterfly *Cymothoe caenis*, Drury, in Uganda and the Belgian Congo.—Prof. Poulton said that he had not until quite recently received any record of migrations in this species referred to by Aurivillius in Seitz, Vol. XIII (*Macrolep. Eth.*, p. 151, Engl. trans.). Capt. Riley had, however, drawn his attention to the following passage in Dr. Arnold Schultze's *Ergebnisse der Zweiten Deutschen Zentral-Afrika-Expedition* 1910–1911 (Bd. I. Lief. 14, Lep. II, p. 677), which had been kindly translated by Dr. R. Hanitsch, as follows :—

"*C. caenis*, the commonest of all species of *Cymothoe* inhabiting the primeval forest and one of the commonest of all the NYMPHALIDAE, makes its appearance, like all abundant species, especially at the beginning and at the end of the most fruitful period of butterfly life, while it disappears altogether at other times, and not only during the Dry Season. It is one of the few [forest] species of *Cymothoe* which also inhabit secondary jungle and plantations, and its migratory flights, which have so often been recorded, are some of the most noteworthy phenomena in the insect world of the African primeval forest. These butterflies, especially the males, prefer to settle, like most other species of the genus, upon fallen fruit and parts of the ground which have been defiled [by animal excreta]."

Miss Gertrude Vinall had written, 22 August, 1928, from the Balolo Mission, Bongandanga, Basankusu (1° 36′ N.: 21° 2′ E.), in the Belgian Congo, giving the following account of the migrations she had observed :—

"*Libythea labdaca*, Westw., so far does not seem to be migratory here. There are always a number about and not flying in any special direction.

"No. 700 : *Cymothoe caenis*, Drury, is the only kind I have seen flying in crowds in one direction. It is the commonest butterfly about here. The thirteen specimens I enclose were all caught together. I send them that you may see how much they vary. They came out in numbers on July 27. I will watch and note the time of their migratory flight and direction, which takes place later on. I noticed it at Ikau (150 to 200 miles away) as well as here during my last term at Bongandanga."

Dr. G. D. H. Carpenter's observations on the migration of the same species were contained in his letter, written 25 September, 1928, at Entebbe :—

"*A Migration of Cymothoe caenis.*—On arrival at Arua, on 10 August, I was at once impressed with the vast numbers of a species of *Cymothoe* which were settling on the ground under shady trees or flitting about, but showing no signs of flight in any definite direction. The District Commissioner and Doctor told me that the flight had only arrived the day before with, or just in advance of, a storm. The specimens were very fresh and the females showed great variation from deep blackish-brown to pale yellow—almost the cream-colour of the males. I hurriedly took a few for record the day I arrived, and selected more next day to show the range of variation. The butterflies fed vigorously on small fallen figs. I saw no courting or amorous behaviour. I found one impaled on a thorn, presumably by a Shrike. Arua lies at an elevation slightly under 4000 feet, within a few miles of the Congo-Uganda frontier which here follows the Congo-Nile water-parting.

"My route for the next few days lay northwards, within a few miles of the frontier, and parallel with it, until I came to the Kaia River, which divides Uganda from the Sudan. This *Cymothoe* was found all along the route wherever there were shaded streams or even in small patches of a few bushes. From the Kaia River I went S.E., but by the 26 August the butterflies were no longer noticed.

"On 14 August at a camp named Kobboko my wife and I noticed twice during the day a very definite flight of these butterflies. At noon, for about half-an-hour there was a continual stream of males and females flying due eastwards a few feet above ground with a light air from the west. Just before sunset I noticed an apparent stream of the *Cymothoe*, apparently coming from the top of a tall tree about 50 yards away, and then saw that they were coming towards me over the top of the tree and that there was a migratory stream of them, as high up in the air as one could distinguish that they *were* butterflies against the clouds—males and females, flying steadily eastwards with the light air. No butterflies of this flight were within reach.

"It was a calm evening, with a great deal of high cirrus cloud. There had been much rain and stormy weather for some weeks previously, but the following day was fine, though a day later still, at our next camp some 11 miles further north, there was a storm at daybreak."

In a letter of 14 October Dr. Carpenter wrote :—"It's very interesting—the migratory *Cymothoe* of which I sent you specimens from the W. Nile has turned up at Entebbe ! "

The marked polymorphism of the females received from Dr. Carpenter contrasted sharply with those sent by Miss Vinall, nearly all of which were of the form *conformis*, Auriv., closely resembling the males. The difference was so interesting that it was hoped to make a careful study of the whole of the ample material and bring the result before a later meeting of the Society.

In reply to a question by Dr. Neave, Prof. Poulton said that Dr. Carpenter's notes showed that these forest butterflies evidently assumed entirely different habits during migration, exchanging a winding flight near the ground among the undergrowth for one which carried them over the tree-tops and across stretches of open country and thus enabled them to cover long distances in a comparatively short time.

[Since the meeting of 7 November the following notes on the migration of this species have been received from Capt. C. R. S. Pitman, who wrote from Entebbe on 24 October. It was thought that it would be convenient to add this account to the others, although it was impossible to communicate it with them. The accompanying specimens will be studied with those of Miss Vinall and Dr. Carpenter. —E.B.P.]

"I have a record of a most interesting migration of *Cymothoe caenis* which I observed on 11, 12 and 13 October. As I have previously observed, the actual direction of butterfly movements is difficult to ascertain on the Entebbe peninsula, on account of its peculiar situation. However, I think there is little doubt that the movement was from the north to the south and reached its greatest intensity on the third day. Although there was extremely stormy weather not very far away to the north, no rain was falling at Entebbe where it kept fine and bright. These myriads of butterflies appeared to be moving ahead of great storms. During the period of migration the wind was generally from the south, at times blowing with great force. The movement was apparently at its greatest between the hours of 10.0 a.m. and 2.0 p.m."

FURTHER NOTES BY W. A. LAMBORN ON THE "CLOTHES-MOTH" *TINEOLA UTERELLA*, WLSM., IN AFRICA.—Prof. POULTON exhibited four larval cases of this Tineid, sent 29 September, 1928, by his friend Dr. Lamborn from Fort Johnston, Nyasaland, together with the following interesting notes :—

" I am of course thoroughly familiar with the larvae of the Tineid making the little case sketched by Burchell [see *Proc. Ent. Soc. Lond.*, III, 1928, p. 47]. I took some little interest in them when I first commenced work on the West Coast under your guidance many years ago; for I thought that they might be Psychids. I bred a few out, saw what they were, obtained also a few Chalcids from them and then neglected them, expecting that they had been fully worked out. In Nigeria they occur in very great abundance, particularly in outhouses, and they are found at the lower levels here, although they are by no means so numerous. As I read your letter I remembered that I had seen one of the cases on the wall near my chair and pointed it out to my wife, who probably removed it during my absence. However, on searching in my laboratory, which must have been closed now for a month, I found about twenty without any difficulty and will breed out some imagos for you. I enclose a few cases. The larvae crawl in Psychid fashion on walls, feeding as Burchell notes, on any animal débris, and weaving as they grow fragments of earth, dust, etc., into their cases. Those now sent show particles of limewash and of the mud with which our walls are plastered. I have not noticed the vibration of the antennae to which Burchell alludes, but have seen it in another Tineid captured about a year ago. I will, however, look for it in *Tineola*."

THE LARVA AND COCOON OF THE ELATERID BEETLE *TETRALOBUS FLABELLICORNIS*, L., FROM UGANDA.—Prof. POULTON exhibited the cocoon together with the beetle which emerged from it, and communicated the following notes from Dr. Carpenter's letter of 25 September, 1928 :—

" In Bunyoro district, on 8 May, I found running actively over the ground a large Coleopterous larva of flattened form, with the body covered with fairly long densely-set hairs almost like an Arctiid larva. The head was much flattened. General colour bright orange. I thought this was of the same type as one that was identified as a Drilid larva which was used in experiments on the edibility of insects (see *Trans. Ent. Soc. Lond.*, 1921, pp. 82, 89; also Plate VIII, fig. 26 of *A Naturalist in East Africa*, 1925). As this larva appeared full-fed I put it in a tin with loose earth and grass débris, and it almost at once buried itself under the grass-stems. As I had to shut the tin up and pack it for travelling I did not see the insect again for some days, when I found that a large dark brown cocoon of brittle parchment consistency had been formed vertically in a corner of the tin. About mid-July, as nothing had happened, I opened the top of the cocoon and saw that all was well. A live pupa was within, tail downwards, in a vertical position. At the beginning of August I found that the imago had cast the pupal skin but was still soft and enclosed in the cocoon. As I had to go for a long safari on 7 August, I drew the beetle out from the cocoon and then saw to my surprise that it was the specimen I now send. As the abdomen was still soft I thought it best to leave it alive until my return; but finding, on 19 Sept. that all was well and the beetle in good condition I killed it. I can see no trace of the larval skin within the cocoon now sent with it.

" I had no idea that Elaterid larvae ever resembled this one, which had all the appearance of a free-living, active, carnivorous species. The beetle when placed on its back on a smooth hard surface was able to achieve the usual ' Skipjack ' somersault—rather unexpectedly as it seemed so large and heavy. It is, I think, a common species—I have often seen it or others very like it—and also the larvae, but have never before attempted to rear one."

Mr. K. G. Blair, who kindly determined the species, had written concerning the termitophilous habits of the larva:—"I can find nothing published on the subject, but my authority for the information is the following note (written by Dr. C. J. Gahan) beside a specimen in the Natural History Museum :—'Considered by Mr. G. A. K. Marshall to be the larva of *Tetralobus* sp.; he states that they have frequently been brought to him from nests of Termes, as queens of the latter.' Its identity with *Tetralobus*, I believe, is now established, but there is no reference to its biology in Junks' *Catalogue*, and it does not appear in Wasmann's *Kritisches Verzeichniss* (1894)."

The larva referred to in Dr. Marshall's note is very different in appearance from a densely hairy one, believed to be of the same species, placed beside it in the drawer. This latter hairy larva corresponds with Dr. Carpenter's description.

Dr. Marshall had kindly examined the two dried larvae and had written that neither he nor Mr. Blair saw any reason why they should not belong "to the same or to closely allied species, the large specimen being distorted by stretching to its utmost limit, and the small one being completely shrivelled up, which consequently makes the hairs seem much denser and more upright. I remember finding an adult *Tetralobus* on more than one occasion hiding just inside the top of a termites' chimney."

Dr. Carpenter's observations clearly proved that the mature larva, having presumably quitted the termitarium, passes through a prepupational stage of active wandering.

THE ICHNEUMONID, *ECHTHROMORPHA VARIEGATA*, BRULLÉ, A PARASITE OF LEPIDOPTEROUS LARVAE FROM UGANDA.—Prof. POULTON also exhibited a female of the Ichneumonid *Echthromorpha variegata*, Brullé, named by Dr. J. Waterston, who had with much skill extracted it in a condition fit for determination from a female moth pupa sent in spirit by Dr. Carpenter from Uganda. The parasite had died with its head projecting from the anterior end of the pupa, presenting a very curious appearance. The chrysalis had been produced by a "very ordinary-looking smooth green Lepidopterous larva" found in the West Nile District.

THE ATTACKS OF BIRDS UPON SWARMING BEES IN UGANDA.—Prof. POULTON said that his friend Dr. G. D. H. Carpenter, in the letter of 25 September, 1928, already referred to, had sent an account of the following interesting observations :—

"On 17 August at a camp on the Kaia River, which is the frontier between western Uganda and the Sudan, my wife and I, during an evening stroll, noted many birds congregated on a tree-top and repeatedly flying up into the air from a perch, catching something, and settling again. There were shrikes and several other smaller species, but I was surprised to note among them a black bird with a light yellow interscapular patch, and very long tail plumes, which I took to be one of the Whydah Finches or Widow-birds. I was surprised because, with a powerful telescope, I was able to see that the attraction was a swarm of bees somewhere in the top of the tree. The birds were catching and eating those that buzzed round the outskirts of the settled cluster which I could not actually see. I had not known that Whydah Finches would eat bees—but do not know another bird with similar long curled tail-feathers.

" Some weeks previously, from our house at Entebbe, I had noticed two of the common large black-and-white hornbills (*Bycanistes subcylindricus*) on the very top of a tree opposite repeatedly snapping at something in the air with such vigour that the ' click ' of the beak was very audible. I watched with a telescope for a long time until I was able to make up my mind that the tiny objects which I could just see were bees swarming round the tree-top. The hornbills were extremely eager to catch them."

Dr. G. A. K. Marshall has kindly written on the subject of the bird resembling a Whydah Finch :—" I have asked both Mr. Sclater and Dr. Neave about the bird that Dr. Carpenter saw catching bees on a tree-top. We all three agree that it is extremely improbable that any Whydah Finch should behave in this manner, the habit being rather that of a Flycatcher or a Drongo. There are, however, no birds of that kind known to Sclater in Uganda which have the yellow interscapular patch."

It was much to be hoped that Dr. Carpenter may have the opportunity of repeating the observation and if possible of obtaining a specimen of the bird.

A WING OF *PAPILIO L. LEONIDAS*, F., PROBABLY REMOVED BY A BIRD.—Prof. POULTON exhibited the wing sent by Dr. Malcolm Burr from N. Rhodesia and referred to in *Proc. Ent. Soc. Lond.*, III, p. 37.

PARALLEL COLOUR-VARIATIONS IN HUMBLE-BEES FROM THE HIMALAYAS.—Mr. O. W. RICHARDS, in exhibiting the specimens on which his remarks were based said :—

" The genus *Bombus* has now been studied sufficiently to define with certainty a number of very distinct subgenera. These are based on the structure of the clypeus and labrum, the length of the malar space, the sting of the female, the genitalia of the male, and various other structural features. There can be no doubt that the species placed in one subgenus are very closely allied to one another, while those in different subgenera are much more distinct.

" In the Himalayas there is a distinct, at present undescribed, subgenus typified by *B. orientalis*, Sm. A closely allied species with a different colour-pattern, is *B. haemorrhoidalis*, Sm. With these two bees, in some cases apparently at the same spot and time of the year, appear six others, belonging to three different subgenera, one member of each subgenus resembling *B. orientalis*, Sm., and the other *B. haemorrhoidalis*, Sm. The resemblance in most of these bees would deceive any ordinary hymenopterist, and the differences would only be detected by a specialist on the genus.

" *B. eximius*, Sm., and *B. genalis*, Friese, form another pair, closely resembling one another, but belonging to quite different subgenera.

This phenomenon resembles in many ways the Müllerian mimicry found in Lepidoptera, but one hesitates to use the term mimicry in this particular case because: (1) In any one district too many colour-patterns occur together, (2) *Bombus* is so polymorphic in colour that it would be impossible to speak of variation from an ancestral pattern, (3) there are cases where forms occurring in widely separated areas have parallel colour-variations, *e.g. B. terrestris xanthopus*, Krchb., of Corsica resembles *B. rufipes*, Lep., of Malaya. The term Müllerian mimicry is more applicable to the general resemblance sometimes found amongst all the species of *Bombus* inhabiting a large area, *e.g.* the N. American ones. This general resemblance would enable a bird enemy more quickly to learn to recognise a humble-bee. The detailed resemblances found amongst the Himalayan bees would not do this because of the numerous other colour-patterns occurring in the same district.

LARGE WORKERS OF *VESPA GERMANICA*.—Dr. J. WATERSTON exhibited on behalf of Mr. G. E. NIXON large and small workers of *Vespa germanica*, Fab., from a still (7.xi.28) active colony in Surrey. The large examples, which approached the queen in size, showed on the whole the habits of workers.

RARE BRITISH DIPTERA.—The PRESIDENT exhibited the following rare or little known species of Diptera :—

*Helophilus consimilis*, Malm., new to the "British List," a species previously recorded from only Norway and Finland. Easily confused with *H. versicolor*, F., it can be distinguished by the deeper black colour of the thoracic stripes compared with the brownish-black colour of *versicolor* and by the darkened tip to the front tibiae. Specimens were taken in the Norfolk Broads district on 21 and 28 June, 1928.

*Xanthogramma citrofasciatum*, De G., the rarer of the two British species of that genus taken near Stokenchurch (Bucks.) on 30 May, 1928.

*Nephrocerus flavicornis*, Zett., the rare giant Pipunculid, at one time thought to be confined to the New Forest (where the late Mr. F. C. Adams took four specimens) until one was caught by the late Mr. F. Jenkinson at Cambridge in July 1906. The specimen exhibited—the sixth known British example—was taken in Chippenham Fen (Cambs) on 9 July, 1928.

## Wednesday, November 21st, 1928.

Mr. R. W. LLOYD, Vice-President, in the Chair.

### *Nomination of Officers and Council for* 1929–30.

The SECRETARY announced that the Council had nominated the following as Officers and Council for 1929–30 :—

| | |
|---|---|
| *President.* | K. JORDAN, Ph.D. |
| *Treasurer.* | W. G. SHELDON, F.Z.S. |
| *Secretaries* | S. A. NEAVE, M.A., D.Sc., F.Z.S.<br>N. D. RILEY, F.Z.S. |
| *Librarian.* | H. J. TURNER. |

### *Other Members of Council.*

R. ADKIN, E. C. BEDWELL, J. E. COLLIN, F. W. EDWARDS, Captain A. F. HEMMING, C.B.E., F.Z.S., R. W. LLOYD, R. STEWART MACDOUGALL, M.A., D.Sc., F.R.S.E., G. A. K. MARSHALL, C.M.G., D.Sc., F.R.S., J. W. MUNRO, D.Sc., W. RAIT SMITH, W. H. T. TAMS, A. E. TONGE.

## *Election of Fellows.*

The following were elected Fellows of the Society :—Professor C. BOLIVAR Y PIELTAIN, Museo Nacional de Ciencias Naturales, Madrid, Spain ; J. W. MCHARDY, B.Sc., Entomologist, Medical Laboratories, Dar es Salaam, Tanganyika Territory ; H. S. HANSON, South Molton, N. Devon.

## *Exhibits.*

*DEILEPHILA LIVORNICA* AND *STERRHA SACRARIA* IN HAMPSHIRE.—Mr. ALAN DRUITT exhibited a fresh specimen of *Deilephila livornica*, Esp., taken on the 19th September in his garden on Christchurch Harbour, also two males of *Sterrha sacraria*, L., taken on the 10th October. The early summer of 1928, having been not unfavourable to immigration (e.g. *Colias croceus* and *Percnoptilota fluviata*, Hb.), he suggested that these latter might be the offspring of an early summer immigrant.

The range of *S. sacraria* includes Africa and South Europe, and it is said to be continuous as to reproduction and not to hibernate in any stage. It can therefore be assumed that in process of migration towards this country several families, descendants of the original migrants, may be propagated en route. The specimens taken from time to time in England appear usually to be males. The female may not be so active in habit as the male, and may thus on arrival in this country escape observation. A further point arises as to whether the migration is continuous or confined to the summer months of the year. Dates of captures in this country are in the months of August, September and October. If the specimens are themselves migrants, the point arises of what can be the inducement or attraction which causes migration so late in the year. The insect has no prospect of surviving the English winter in any stage. On the other hand, is there any reason why—as in the case of *Percnoptilota fluviata*—there should not be reproduction in England from an early summer migrant female ?

ABERRATIONS OF BRITISH LEPIDOPTERA.—Mr. ARTHUR F. GRIFFITH, a visitor, exhibited and made remarks on a number of British Lepidoptera, including a variety of *Melitaea aurinia*, a black *Limenitis sibilla* and a very striking variety of *Chrysophanus phloeas* in which the apical three-fourths of the fore-wings and the whole of the hind-wings were black.

EXHIBITION OF SOME SPHINGIDAE.—Dr. K. JORDAN remarked that at a former meeting Mr. H. M. Edelsten had exhibited a drawing of the beautiful caterpillar of the small South African Hawkmoth, *Microsphinx pumilum*, Boisd. (1875), which his cousin had been successful in rearing at Sepani, O.F.S. Mr. Edelsten had not shown the imago, because the series sent had generously been presented to the British Museum and to Lord Rothschild. At the request of Mr. Edelsten Dr. Jordan exhibited a pair of the moth and, for comparison, showed also the six known species of the closely allied genus *Sphingonaepiopsis*, these seven Old World species being the smallest Hawkmoths known. In order to illustrate both extremes in size which evolution had reached in SPHINGIDAE, the largest Hawkmoths, which are American —*Cocytius antaeus*, Drury (1773), with its larva and pupa, and *C. cluentius*, Cram. (1775), with its pupa—had been added to the exhibit.

South American parasitic fly larvae.—Dr. K. Jordan said that the two small maggots exhibited were taken from the leg of the Rev. A. Miles Moss, F.E.S., at Pará, Brazil. They represented the early instar of *Dermatobia hominis*, Say (= *cyaniventris*, Macq.), a fly widely distributed in tropical and subtropical America, its larvae, which bore into the skin, frequently becoming a serious pest to cattle and horses and often also attacking man.

Notes on the flight of *Colias croceus* and *Pieris brassicae* near Bere Regis, Dorset.—Prof. Poulton, in the absence of his friend Mr. H. L. Andrewes, communicated the following observations made by him in a field about two miles south of Bere Regis :—

*Sept. 5th*, 1928.—Rather stiff breeze, varying from W. to S.W. Warm, occasional light cloud.

Between 10.45 and 12.0 saw about 20 *C. croceus*; none seen after 12.0. In *every case* the butterfly was seen travelling in jerky zigzag fashion from N.W. to S.E., and every one left the field (see attached sketch map) at some point in the hedge at S.E. end. Most of them settled occasionally during flight. They became visible at about 80 yards distance. I had noticed a few the previous day travelling in the same direction.

Saw 7 or 8 *P. brassicae* (both sexes) travelling at top speed from S.W. to N.E. without deviating or settling, the flight being remarkably straight. On reaching a copse on the N.E. side of field they (and those seen on subsequent days) either plunged into the copse, or travelled to right or left * (with very few exceptions, to the right) until they reached an easy way through, when they went straight on in their original direction. The impression that they had not a moment to spare was unavoidable. These *brassicae* were seen from 10.45 to 3.25, after which none were observed.

*Sept. 6th.*—Stiff breeze from W.N.W.—fitful. Bright, fresh. Between 11.0 and 3.40 saw 3 *croceus* and 1 ♀ which was either an intermediate lemon-yellow form between *helice* and *croceus*, or was *hyale* (unfortunately I missed it by a hair's breadth). All four were on exactly the same course (N.W. to S.E.) as those seen yesterday.

Saw also, between 11.0 and 1.30, 4 *brassicae*, each travelling as yesterday at full speed from S.W. to N.E. No butterflies seen after 3.40.

*Sept. 7th.*—Wind rather strong from S. Warm and sunny. Wind moderated and veered to S.E. about 2.0.

Between 12.45 and 2.45 saw 4 *croceus*. The first crossed the hedge on S.W. side of field at an acute angle, travelling about N.N.W. to S.S.E. The second travelled S.E. to N.W., exactly in the reverse direction to that of previous days ! The third went S.W. to N.E., *i.e.* at a right angle to the usual course. The fourth went N.W. to S.E.

Also seen, between 10.45 and 2.40, 5 *brassicae*, all of which behaved exactly as before, except one which went rather irregularly but finally left the field over the hedge on N.E. side.

*Sept. 8th.*—Wind W.'ly, but very light ; veered about a lot during day from S.E.

---

* Those that tried to pass through on the left only went a little way and then travelled to right until they reached the thinner part of copse.

to W. Very hot, still day. Was away in morning and could make no observations until after mid-day.

Saw about 15 *croceus*. About 30 per cent. were on the N.W. to S.E. course, the remainder going in various directions. I noted that a "line of mean direction" of their flight would certainly lie to the S.E. of a line drawn from S.W. to N.E.

Saw 3 or 4 *brassicae* travelling exactly as before—S.W. to N.E. Cloud after 1.30 kept butterflies at home.

During these four days numerous *rapae* and *napi* were seen; they, and the few other species observed, were wandering vaguely about in any and every direction.

I saw numbers of *croceus* after the 8th, but though there seemed a tendency to work S.- and E.-ward, it was anything but marked. One was certainly justified in looking on the flight of *croceus* up to the 6th as a true "migration." Why they ceased their definite N.W.–S.E. flight is quite mysterious.

*Brassicae* was most undoubtedly migrating. I had no idea this insect could go so rapidly. There was such an air of determination to reach its goal in the shortest possible time.

[A condition of over-population such as was likely to evoke the instinct of migration in *brassicae* had been observed by Major W. J. Pendlebury, M.A., at Hof Gastein (about 3000 feet), Land Salzburg, Austria, as described in the following letter of 13 August, 1925:—"I have never seen such swarms of *P. brassicae* as are out at present. In one small patch of garden 10 yards by 4 yards I counted over 100 at the same time, and they are very numerous also in the hay-fields which have not yet been cut."—E.B.P.]

APPARENT COURTSHIP OF A FEMALE *GONEPTERYX RHAMNI*, L., BY A MALE *COLIAS CROCEUS*.—Prof. POULTON in the absence of Mr. H. L. ANDREWES communicated the following observation made by him on 8 September, 1928, in his garden near Bere Regis, Dorset:—

"I wanted a few specimens of *croceus*, and seeing a ♂ fluttering into my cabbage-patch I went towards it; its path crossed that of a *Pieris* (either *rapae* or *napi*). Just then a *rhamni* ♀ happened to arrive and, by pure chance I am certain, the three were within a foot or two of each other. The *Pieris* checked in its casual flight for a moment and then went unconcernedly on. The *croceus* and *rhamni* became quite excited, and circled rapidly round each other close together, just as one sees butterflies when courting or playing. This continued for several seconds, by which time I had reached a point, outside the 3 ft. wire netting round the patch, towards which they were moving. The next thing that happened was that the *croceus* had got outside the netting, which was bent outwards, the *rhamni* remaining on the inside. For ten or fifteen seconds the *croceus* went along, butting against the netting in quite a frantic effort to get back again! Still intent on catching the insect, and not thinking how much better it would be to abide the issue, I foolishly struck at it—and missed it! The *rhamni* I did not see again. I suppose the colour of the *rhamni* had an attraction for the *croceus*."

Mr. R. J. WILKINSON exhibited a large number of cabinet drawers of Lepidoptera to illustrate his views on problems of mimicry.

## Wednesday, December 5th, 1928.

Mr. J. E. Collin, President, in the Chair.

### *Nomination of Officers and Council for* 1929–30.

The Secretary read the nominations for Officers and Council for 1929–30, for the second time.

### *Election of Fellows.*

The following were elected Fellows of the Society :—W. R. Thompson, Ph.D., D.Sc., Farnham House Laboratory, Farnham Royal, Bucks; J. F. Perkins, 4, Thurlestone Road, Newton Abbot, Devon; F. J. Reed, Eastover, Bridgwater; K. R. Karandikar, B.A., M.Sc., Department of Entomology, University of Edinburgh.

### *Exhibits.*

The habits of *Niptus hololeucus*, Fald.—Dr. R. Stewart MacDougall showed two exhibits of this beetle, both indicating the ability of *N. hololeucus* to flourish for a prolonged period in circumstances that are worthy of record. In the first the beetles were shown in a bottle of casein that had been prepared for laboratory purposes. Dark specks had been noticed in the casein when it came to be used. These on examination proved to be six or eight adult *Niptus*. This bottle, received in the summer of 1915, was put on one side in the laboratory and allowed to remain there secured with a glass stopper. The beetles bred, and as time passed new generations tunnelled through the casein until the summer of 1927, when no further active life was noticeable. The glass stopper was removed in December 1928, and the adults of *N. hololeucus* counted. There were 1547 beetles.

The second example was that of a tin from a pharmacist in County Fife, containing leaves of stramonium, the well-known poisonous medicinal plant. This tin had remained unopened for fifteen years, and in it *Niptus* had fed and bred. The exhibitor had also had *Niptus* reported to him from cayenne pepper.

Mr. J. C. F. Fryer reported the finding of *Niptus* in the cork of a cyanide killing-bottle. This beetle had also been reported from sal-ammoniac.

*Sitodrepa panicea* was also shown in spoiled dog-biscuit, from which the beetles had been bred. The exhibitor has found it frequently in such food.

A nest of *Bombus lapidarius* parasitised by *Psithyrus rupestris*.—Dr. R. Stewart MacDougall said that the specimen was a fine *B. lapidarius* nest dug by Dr. Oliver Wild, and now in his own collection. When dug up, the nest contained the dead foundress queen of *B. lapidarius* and thirty-six workers. There were also present the usurping queen *Psithyrus rupestris*, five new young *rupestris* queens and twelve new *rupestris* drones.

*Sirex gigas* boring in chocolate.—Dr. R. Stewart MacDougall also showed a female of *S. gigas* in chocolate, through several cakes of which it had bored. The supply of chocolate had come from Switzerland packed in a large wooden case, and the wood, which was unseasoned, had contained larvae or pupae of *Sirex*. A female had completed her development, and in order to get to the outside had, in her endeavour to do so, eaten very neatly through several cakes. In this position the female was found when the importer was unpacking his stock for sale.

SOME RARE INDIAN SPHINGIDAE.—In explaining the purpose of the exhibit, Dr. K. JORDAN said that a good many friends of Entomology in India and at home were under the impression that all the larger insects of India were known and well represented in collections. The Sphingids exhibited proved this opinion to be quite wrong. The type specimen of *Callambulyx poecilus*, Roths. (1898), for instance, was still unique; of *Marumba decoratus*, Moore (1872, described as a *Smerinthus*), the type was lost, and the only other specimen recorded was a female in the Tring Museum; *Marumba poliotis*, Hamps. (1907), described from a single male from Ganjam, had only lately been rediscovered in a somewhat different subspecies by T. R. Bell in North Kanara; and Major F. B. Scott had succeeded in breeding two new species: a most beautiful *Rhodoprasina* (to be described in *Novitates Zoologicae*, January, 1929, as *R. callantha*, from Shillong), and the drab-grey *Sataspes scotti*, Jord. (1925), from Dehra Dun. He also drew attention to the interesting fact (observed in many Lepidoptera) that the upperside of the hind-wing and the underside of the fore-wing (*i.e.* the surfaces which face each other) were bright red in *Rhodoprasina*, these red areas being concealed when the insect was at rest, *Rhodoprasina* probably resembling in this attitude a pair of sprouting leaves (as is well known of the Lime Hawkmoth).

THE HABITS OF *NOTOXUS MONOCERUS*, L. (COLEOPTERA, ANTHICIDAE).—Mr. O. W. RICHARDS said :—

"On July 16th, 1925, I found four specimens of this beetle crawling about on a dead *Meloe proscarabaeus*, L., at Shotover, near Oxford. Tylden (*Ent. Mo. Mag.*, ii, 1865, 118) has made a similar observation. Traizet (*Bull. Soc. ent. France*, 1896, p. 104) notes that Bedel found the same beetle on a dead *Lytta vesicatoria*, L., while Chobaut found the related *Anthicus fairemairei*, Bris., on the dead body of a *Meloe rugosus*, Marsh. Traizet himself had a more remarkable experience. He had kept a number of specimens of three species of *Meloe* in alcohol for a year, then took them out, cleaned them with acetic acid, and put them on a plate in his garden to dry. In two hours over five hundred of the *Notoxus* had collected, crawling over the *Meloe*, but not damaging them. Chobaut (*Bull. Soc. ent. France*, 1897, p. 74), Pic (*tom. cit.*, p. 124) and, more recently, Normand (*Bull. Soc. ent. France*, 1918, p. 79) have recorded somewhat similar observations. *Notoxus* is more or less confined in England to sandy areas, and though not rare, is scarcely to be called abundant. Mr. A. H. Hamm tells me he once trapped several hundred in his garden at Oxford. A small box that had contained confectionery was left on the lawn overnight and in the morning was found to contain these beetles.

"The attraction of Anthicids to dead Meloids may perhaps be associated with the presence of cantharidin in the tissues of the latter. Mr. K. G. Blair, however, tells me that Anthicids are known to eat dead insects."

INSECTS FROM THE FRENCH RIVIERA.—Mr. E. B. ASHBY exhibited and made remarks on a number of insects of various orders from localities on the French Riviera, chiefly the neighbourhood of Hyères and Draguignan.

BUTTERFLIES FROM COSTA RICA.—Mr. W. J. KAYE exhibited specimens of *Terias proterpia* of the extreme dry form *longicauda* and also of an intermediate form between the type form and the latter. These had been taken in the height of the dry season, Feb.–March, at San Antonio, Costa Rica, at 3000 ft. The extreme form *longicaudata* was shown how it settles on the dead leaves and stems of *Eupatorium odoratum* and how it closely imitates its surroundings, the rust-red markings on the dead leaves of the plant being very closely copied by the similar marks on the underside of the hind-wing of the butterfly. Mention was made of the occurrence of wet-season forms occurring in the dry season not uncommonly, but that dry-season forms in the wet season were extremely rare. The explanation given was that in the wet season every place was wet, but that in the dry season certain restricted localities had the appearance of the wet season due to stored water or springs. Such was the case at San Antonio, where owing to springs a certain lane was always wet. It was here that an intermediate form of *proterpia* was taken, while in the same road a quarter of a mile away everything was dried up and dusty and the extreme form *longicauda* was alone met with.

Röber in Seitz, *Macrolepidoptera of the World*, V, p. 81, makes *gundlachia*, *longicauda*, and *proterpia* three different species, but I think that there is no doubt they are all forms of one variable species, and they are so treated in the National Collection at S. Kensington.

NOTES ON THE COURTSHIP OF *HYPOLIMNAS MISIPPUS*, L., IN UGANDA, BY CAPT. C. R. S. PITMAN.—Prof. POULTON said that he had received the following notes in a letter written 6 August, 1928, by Capt. Pitman :—

" This parcel includes a female *Hypolimnas misippus* which I watched courting but unfortunately missed the male. The female kept on towering into the air to a height of at least 40 feet, followed by the male just below her with fluttering wings. This happened several times, the female always evading the male and descending sharply, practically vertically, to the ground."

The accompanying specimen bore the data—" 28.vi.1928. Bulugwe, Budama, Uganda, 3800 ft." It was a female *misippus* of the form *inaria*, Cram., somewhat transitional towards the form *misippus* in the prominence of the pattern at the apex of the F.W. A confirmatory observation and additional notes on the species, in Capt. Pitman's letter of 24 October, 1928, were printed below :—

" With reference to the note in my letter of 6.viii.28 on the subject of the courtship of *Hypolimnas misippus*, I may add that, on 18.viii.28 at Kyangwali on the eastern side of the Bugoma forest above the Lake Albert escarpment, in Bunyoro, N. Province, I witnessed exactly the same performance. A female, pursued by an amorous male, fluttered to a height of nearly 100 feet, and then descended in a rapid dive. I was unable to secure either of them.

" It is worth recording that on the flats and grassy plains fringing the eastern shores of Albert Nyanza, between 19 August and 5 September, just as a short rainy season was commencing, I found the females of *Hypolimnas misippus* distinctly common, although but few males were noted. Danaids on the other hand were scarce. Unfortunately I had little opportunity for butterfly collecting and only secured a few specimens of the females."

CAPT. C. R. S. PITMAN'S OBSERVATIONS ON THE MIGRATION OF PIERINE BUTTERFLIES, ESPECIALLY *BELENOIS SEVERINA*, CRAM., IN UGANDA :—[Prof. POULTON, in communicating Capt. Pitman's record of observations, said that it was especially interesting that this account enabled us to compare the migrations of two allied species of *Belenois*—*mesentina*, Cram., and *severina*—in adjacent areas. Migrations of *mesentina* in western Kenya Colony had been recorded by Canon K. St. Aubyn Rogers and Dr. V. G. L. van Someren (*Proc. Ent. Soc. Lond.*, I, 1926, p. 8) and Capt. Pitman (*Ibid.*, II, 1927, p. 43; III, 1928, pp. 17 and 45), the last reference being to the discovery of the breeding-ground, in the old Lado Enclave, where the migratory streams had their source. The present communication dealt mainly with the breeding-grounds and migration of *severina* in Uganda.

Mr. C. B. Williams had written 9 July, 1928, from Amani :—" It appears that *severina* is quite as big a migrant as *mesentina*, but in so many cases the species is uncertain that I cannot yet see if there is any difference in the seasons or areas in which they migrate." Again, on 22 August, 1928 :—" Migrations continue to take place at Amani and at present *Belenois severina* is passing in small numbers to the south-east or east and has been doing so since the middle of June almost without ceasing."

Mr. J. E. M. Mellor, writing 14 November, 1928, on board the S.S. " Clement Hill " crossing Lake Victoria, pointed out that the mode of flight was modified, like that of *Cymothoe caenis*, Drury (*Proc. Ent. Soc. Lond.*, III, 1928, pp. 71, 72), by the character of the vegetation. Referring to *severina*, observed at Amani, he said : " *Belenois* was migrating nearly every day in large numbers. It was curious to see how they dropped like falling leaves from the top of high forest to a level of a few feet above ground when crossing a clearing, and rose abruptly to the top of the trees on the opposite side."

Although the following account of the migration of *severina* in Uganda was accompanied by abundant material from most of the areas described, it so happened that no specimens were received from the Entebbe district. Nevertheless, the following notes kindly communicated by Mr. W. C. Simmons, F.G.S., render it certain that the migrating species at and near Entebbe was *severina* :—" 30 *May*, 1928.—Migration of small white butterfly with darker female lasts for nearly a fortnight—towards S.W. Identified by Mr. C. B. Williams as *Belenois severina*. More males than females. 10–17 *June*, 1928.—Migration by stragglers still proceeding. Many caught in motor-car radiator each day ! "

Notes, lists of species, etc., added by me to the following account by Capt. Pitman are included in brackets.—E.B.P.]

*24 October, 1928: Entebbe, Uganda.*

I am now sending some additional notes on the subject of Pierine migration. Dr. G. D. H. Carpenter and I left Entebbe on Thursday, 24 May, 1928, for a trip to Nkosi Isle of the Sese group. We returned to Entebbe on the evening of Monday, 28 May. On the morning of 29 May a steady stream of *Belenois* sp. was noted moving in a S.W. direction, when the wind was approximately from S.S.E., so that the butterflies were flying almost at right angles to the wind. I was informed that the flight had been in evidence then for one or two days.

I would like here to point out that Entebbe is situated on a small peninsula jutting out in a south-west direction into the Victoria Nyanza, and the whole of the 25 miles of road running roughly north to Kampala is bounded on the east by Murchison Bay and then open lake, so its somewhat peculiar situation is bound to react on any butterfly movement which happens to find its way on to this peninsula. In consequence the remarks of separate observers who witnessed the movement at Entebbe are extremely interesting. However, it would generally appear that these Pierines were moving south-easterly down the peninsula, or in some cases southerly, but, as the shores of the open lake were reached, the movement turned from the water and was deflected westerly and south-westerly along the shore. No stream of butterflies attempted to pass over the 30 miles or so of water S.W. to the Sese Islands, and no Pierine movement to the S.W. over the lake was noted by Dr. Carpenter and myself throughout the 28 May when we steadily travelled by launch to the N.E. As the streams of butterflies approached the tip of Entebbe peninsula they turned westerly over the papyrus swamps to the mainland again. I cannot say for how long this movement lasted as I left Entebbe on 5 June, nor can I say which sex preponderated. The movement, which had shown considerable fluctuations and had nearly stopped, was renewed on the morning of the 5 June, and I noticed large quantities of these Pierines moving mainly S.W. between the hours of 11.0 and noon, over practically the whole of the 25 miles to Kampala and in general at right angles to the wind. In Kampala itself no movement was observed.

From Kampala I turned due west and motored to Mubende some 108 miles distant. It may be as well to mention that afternoon observations are not so trustworthy as those of the forenoon, as at Entebbe it was noticeable that the main drift took place before mid-day. I might also add that, in the whole of the 108 miles from Kampala to Mubende, with the exception of a few miles in the vicinity of the latter place, the road traverses country quite unsuitable for Pierine breeding-grounds. Small streams of Pierines were first noted crossing the road about 45 miles from Kampala and in the vicinity of Lake Wamala. The general direction of this movement was southerly to south-easterly, and as the wind was roughly from the S.W. the line of flight was once again at right angles to its direction. Owing to a delay on the road Mubende was not reached till after 6.0 p.m., so that observations had to cease perforce about 5.0 p.m., but the movement S.E. was probably general from Lake Wamala to Mubende. A further 18 miles west was accomplished from Mubende after dark. I would here say that the country some way north of the road in the counties of Singo and Buruli is well-bushed savannah, the home and breeding-ground of myriads of Pierines of many types. Coupled with this the fact that for nearly twelve months previously there had been unusual conditions of drought and we have a very excellent reason for Uganda being overrun with myriads of Pierines with migratory instincts shortly after some welcome showers of rain. I might also add that these eminently suitable bush conditions for breeding-grounds extend S.W. from the above-mentioned counties and W. of

Lake Wamala, through the west end of the Entebbe district, through Masaka and Ankole districts to the R. Kagera on the Tanganyika border and beyond. If this is borne in mind it will be easier to understand and follow out some of my subsequent remarks; as later in June I visited the Masaka district to the S.W. of Entebbe and Lake Wamala.

My theory of the migration noted at Entebbe is that it emanated from N. Singo near the R. Kafue (the boundary between Buganda and Bunyoro) and moved principally south-easterly along the valley of the Mayanja river (consequently missing Kampala, to a great extent), and then reaching the lake shore was deflected S. and S.W. to Entebbe. This completes my remarks on the Entebbe movement, the possible source of which was followed up for an appreciable distance.

I stayed at a place called Lukwamigo, some 18 miles west of Mubende, from the evening of 5 June to the morning of 8 June. The same Pierine butterflies were unusually plentiful throughout the duration of my stay there. The general trend of the movement was S.E., but the movement was more of a drift than a marked and noticeable migration. From numerous observations it would appear that at that time there was a general southerly movement throughout the area of the breeding savannah country. On 8 June I continued west and very slightly north to Fort Portal on the east side of Ruwenzori, nearly 100 miles from Lukwamigo. The road for the greater part is enclosed and was just alive with Pierine butterflies of several species. It is quite impossible under such conditions to judge the direction of movement, as once the butterflies arrive on an enclosed road they are to all appearances moving either up or down it. In this case the butterfly stream was drifting east, and at certain open areas of considerable extent a south-east and southerly movement was again noted. For the last 20 or 30 miles into Fort Portal there were but few Pierines. I remained in the Toro district lying to the east of Ruwenzori from 8 to 12 June, during which period I toured extensively by car in the north-western, western and south-western portions of the district. I found no marked migration of Pierines taking place. At the same time while staying in a locality about 14 miles to the east of Fort Portal I did observe each morning a *westerly* drift of a different type of *Belenois*—a movement which would have passed unnoticed if one had not been watching for it, when one speedily realised that it was quite pronounced. I enclose a few specimens marked ×. This movement was also at right angles to the wind which was from the south.

[Enclosed with the MS. of these notes were 1 ♂, 6 ♀, of *Belenois severina*, Cram., bearing the data "10 June, 1928: 5000 ft.: Munobo, nr. Fort Portal, Uganda." Five were marked with a ×. Three females were abnormally small. With these specimens were three males of *severina* labelled "8 June, 1928: mile 124–192: Fort Portal Road." The box sent separately also contained the following Pierine butterflies with the same data as those with a ×—1 ♀ *severina*, 1 ♂ *Teracolus elgonensis*, E.M.Sh., 3 ♀ *Mylothris agathina*, Cram. The description of the specimens marked with a × as a different type of Pierine may have been due to the fact that the relatively numerous females of *severina*, were all of a very dark form.—E.B.P.]

On 12 June the return trip was made to Mubende and the road was swarming with Pierines, including quantities of *Belenois* which were moving easterly in the enclosed areas. I was on the road between 9.0 a.m. and 3.0 p.m. and took many specimens out of my radiator. On 13 June, Mubende was left at 10.0 a.m. on the return trip to Kampala; Kampala was left after 5.0 p.m. for Entebbe. For the first few miles after leaving Mubende the numbers of *Belenois* were phenomenal. It was like a thick snowstorm on the road. The butterflies were so numerous that I stopped the car and took a photograph with my telephoto-reflex. There was no apparent migration taking place and that area was evidently a breeding-ground, but there was a distinct easterly drift along the road. These *Belenois* were abundant all the way as far as Lake Wamala, and in the more open country a fitful southerly movement at right angles to the prevailing wind was noticeable.

At Entebbe on 14 June it was noted that during my absence the Pierine movement had come to an end. On 15 June I motored from Entebbe to Jinja in the forenoon and returned in the afternoon, but no movement of Pierines was noticed. On 18 June I motored from Entebbe to Kampala and thence to Masaka, where I arrived at 6.0 p.m. Although *Belenois* were abundant all along the road there was no perceptible movement. On the 19 June I motored from Masaka to the N.W. corner of Buddu and back, mainly through typical Pierine country. There was a fitful though distinct drift of *Belenois* to the south and south-west and the wind was from the S.E.

[The only Pierines of this date, labelled "19.vi.1928: Villa Maria, Masaka," were 3 ♂, 1 ♀ of *Teracolus evagore*, Klug.]

On 20 June I motored from Masaka to S. Koki and back, the greater part of the locality traversed being Pierine ground. Good rain had fallen during the previous 48 hours, and a sunny noon after a dull morning had brought out all manner of butterflies in quantities, the like of which I have never seen before. In certain dampish and shady localities on the road *Belenois* and other species were present in clouds. Solid masses of butterflies were clustered in cool spots several square feet in extent in tens of thousands. A net carefully placed over such a mass would rapidly be filled with thousands, and would become quite weighty! I have travelled extensively and frequently throughout Uganda for the past four years, and in my experience such quantities of butterflies are unusual. There was a distinct movement of *Belenois* to the S.W. and south, once again across the wind which was generally from S.E. or off the lake. Many samples of these *Belenois* are included in the packet sent to you.

[The packet included the following Pierines with these data: "20.vi.1928: Masaka":—10 ♂ *Eronia leda*, Boisd.; 4 ♂ *Belenois subeida*, Feld.; 4 ♂ *Belenois severina*, Cram.; 1 ♂ *Colias electo*, L.; 7 ♂ *Pinacopteryx vidua*, Butl.; 18 ♂ *Pinacopteryx pigea*, Boisd.; 27 ♂ *Pinacopteryx rubrobasalis*, Lanz.; 1 ♂ *Pinacopteryx dixeyi*, Neave; 1 ♂ *Mylothris agathina*, Cram.]

I returned to Entebbe from Masaka on 21 June, but I could not detect any actual movement of *Belenois* which were plentiful enough along the road.

The prevailing weather conditions are worth recording. Good rains broke generally in the areas under review about mid-April, after months of drought. Between 24 May and 15 June Entebbe enjoyed good rains chiefly during the night or in the early hours of the morning. From 5 June to 12 June in the Mubende and Toro districts it was on the whole extremely dry. In the Masaka district on 18 June and subsequent days there was welcome steady rain after a dry spell of three weeks. This closes my existing notes on the subject of Pierine movements.

Before ending this letter I would like to say how interested I was to see, on the 20 June in the Masaka district when I passed mile upon mile of all manner of butterflies in packed masses, that species or families kept strictly together, thereby I presume indicating the capability of butterflies to recognise easily their own species. Amongst the species which thus kept to their own particular clusters were *Papilio dardanus* ♂♂, *Papilio demodocus* (Citrus butterfly), *Papilio brontes* or *bromius*, *Precis westermanni*, a small brown *Acraea*, *Atella phalantha* or *columbina*, *Crenis* sp., *Precis clelia*; also Lycaenids, and Satyrines of the genera *Mycalesis* and *Neocoenyra*. The Pierines also sub-divided into specific groups, although usually several types would be found together.*—C.R.S.P.

[Accompanying Capt. Pitman's manuscript was a map of the Uganda Protectorate with "Typical Pierine breeding country" marked in red. The author adds that "there are probably other breeding areas with which I am unacquainted in the N.E. of the Protectorate." Two red-marked areas are shown.

(1) A narrow strip to the N.W. extending along the E. borders of the lakes, mountains and rivers from the middle of the S.E. shore of Lake Edward to the northern point of Lake Albert; thence northward on both sides of the Nile to Wadelai, and on the W. side of the river, to about 20 miles N. of it. To the S.E. of Ruwenzori the strip widens to surround Lake George.

(2) A broad zone about 60 miles wide encircling the N.W. shores of Lake Victoria but separated from the lake by a coastal strip from 20 to 60 miles wide, broadest in the Kampala area. Southward the red-marked zone ends on the Kagera River; north-eastward at Port Masindi and Lake Kioga to a point about 12 miles E. of the Victoria Nile along which the breeding-ground extends as a narrower strip southward nearly as far as Jinja.—E.B.P.]

INSECTS TAKEN ON A SHIP HUNDREDS OF MILES FROM LAND BY DR. W. C. C. PAKES.—Prof. POULTON said that Dr. Pakes, in a letter written 18 December, 1921, on the R.M.S. "Norman," Union-Castle-Line, had informed him that he had presented to the British Museum (Nat. Hist.) "specimens of butterflies (*Belenois mesentina*) caught over 300 miles from land. Also Locustids [TETTIGONIIDAE] (*Homorocoryphus fuscopunctatus*) which had alighted on the boat when the nearest point of land was Ascension 700 miles away, the nearest point of Africa being over 800 miles." These he stated were the record distances. Capt. Riley had kindly studied the Catalogues and had found that Dr. Pakes had presented Diptera taken on ships in 1919, 1920 and 1921 and other insects in the two latter years. It would be interesting if his specimens of the two above-mentioned species could be exhibited. It was of course possible that insects might lie concealed in the ship or on other ships and take to flight after the lapse of a considerable time. He had noticed this on the voyage from Australia in 1914, when many females of *Hypolimnas misippus*, L., which came on board in Bombay Harbour remained on the ship as far as Aden and would probably have remained much longer but for a high wind which blew them away as soon as they attempted to fly.

---

* The association of allied butterflies when drinking at mud was also pointed out by the late Dr. G. B. Longstaff. Some of his earlier records are collected in *Butterfly-hunting in many Lands*, Lond. 1912, pp. 102–4, 370–1, 377.—E.B.P.

THE DIFFERENT FEMALE FORMS OF *CYMOTHOE CAENIS*, DRURY, COLLECTED IN 1928 IN THE BELGIAN CONGO AND UGANDA RESPECTIVELY.—Prof. POULTON exhibited examples of the female forms of *C. caenis* collected by Miss Vinall in the Belgian Congo and by Dr. G. D. H. Carpenter and Capt. C. R. S. Pitman in Uganda, additional specimens from both these localities having been received since the last meeting (*Proc.*, p. 70). The species was migrating in Uganda but not, at the dates of capture, in the Congo.

The migratory habits of this Nymphaline butterfly had been observed by other naturalists in addition to Schultze, quoted on pp. 70, 71. Thus the late Prof. Chr. Aurivillius stated in Seitz, *Macrolep. Ethiop.* (Vol. XIII, p. 151, Engl. transl.): " *C. caenis* is one of the few butterflies which sometimes congregate in innumerable swarms and, like the locusts, fly for hours in the same direction in extensive migrations. Such a flight was once observed in the Cameroons by the Swedish colonist K. Knutson."

Mr. C. B. Williams had also kindly written from Amani, on 9 November, 1928, giving the following information in addition to that in Seitz referred to above :—

" Holland (1892) quotes a letter from Mr. Good who says he has seen this species migrating in the Ogove District, Gabon, French Equatorial Africa, a few years before 1890. The flight took place towards the end of the dry season and was towards the approaching rains.

" Stephan (1907) says that, according to a label on a specimen in the Berlin Natural History Museum, this species frequently migrates in large swarms in West Africa in March.

" There appears to be general agreement as to the migration of this species but not a single detailed record."

*Forms of female Cymothoe caenis collected in* 1928 *by Miss Vinall in the Belgian Congo.*—All the females and some of the males are included in the following list of captures at Bongandanga, Basankusu (1° 36′ N. : 21° 2′ E.). As the males were found to be remarkably constant it was not thought necessary to tabulate the whole of them.

*April* 21.—1 ♀, a pale *lutea*, Schultze, " sent because I have not seen another," is evidence of the rarity of these orange- and sienna-tinted females as compared with the male-like *conformis*, Auriv.

*May* 12.—3 ♂, 1 ♀ f. *conformis*. " Very plentiful here at times." Also males on May 19, July 18, and August 2.

*August* 4.—7 ♀ f. *conformis*, 1 *lutea*, 2 pale *lutea*. Two males were set; also another of August 14.

*August* 27.—2 ♀ f. *conformis*, 1 pale *lutea* ; also the 3 males *in coitû* with these females.

*September* 25.—1 ♀ *conformis in coitû* with typical male.

*October* 11.—1 ♀ *conformis in coitû* with typical male; also 1 ♀ *lutea*. Two males of *Cymothoe jodutta*, Westw., were included with the note " often found with the commonest butterfly," viz. *C. caenis*.

In addition to these captures at Bongandanga the following specimens were taken at two villages about 70 miles distant.

(1) *Ngando*: *September* 10.—1 ♂, 1 ♀, a pale *adelina*, Hew., this being darker than any other female received from Miss Vinall.

(2) *Bafaka*: *September* 13.—2 ♂, 1 ♀ f. *euthalioides*, Kirby, as identified by Schultze and named in the British Museum Coll. Mr. Talbot has, however, informed me that Kirby's *euthalioides* is a ♀ f. of *Cymothoe sangaris*, Godt., taking precedence over the ♀ f. name *gerresheimi*, Neustt. (*Iris*, 26, p. 179, fig. 4, 1912; *Bull. Hill Mus.*, II, p. 24, 1928). The female form of *caenis* has the pale yellow ground-colour of the male with the faint dark markings of the ♀ f. *conformis* greatly emphasised and extended. It appears to be a rare form.

Thus of the female forms, omitting the rare and peculiar "*euthalioides*," 12 were the male-like *conformis*; 4 pale *lutea* overspread with a very light shade of sienna; 2 *lutea* with a rather deeper shade; 1 *adelina*, rather deeper still. Not one approached in depth of shade numbers of the migrating Uganda females, which included not a single example of *conformis*.

The following notes on the migration of *Cymothoe caenis* are quoted from a letter written 27 December, 1928, by Miss Vinall, from Bongandanga :—

"I am glad you found the *Cymothoe caenis* so interesting. I will take more particular notice of them this coming year. There are very few about just now, only one or two occasionally. They came out in great numbers on July 27 and were mating at that time. I did not make a note as to the time of flight, but they passed by my house in great numbers flying high, according to the compass from a N.W. to a S.E. direction. By the middle of October there were very few to be seen. They were not flying either with or against the wind. Most of our wind and rain storms come from a N.E. direction and occasionally wind without rain from the S.W. or S. We do not get such a distinct wet and dry season as nearer the coast. This is supposed to be the dry season now, and we have had heavy falls of rain on two days last week and two days this week. In the wet season we get rain practically every other day. I think I made a mistake in saying that *C. caenis* migrates twice a year. In 1928 I have seen only one migration, covering some days and perhaps weeks, but I will observe more minutely in the coming year."—E.B.P., 18 February, 1929.

*Forms of female collected in* 1928 *by Dr. Carpenter and Capt. Pitman from the migrating streams of Cymothoe caenis in Uganda.*—Dr. Carpenter's notes on the migration of this butterfly are recorded in *Proc. Ent. Soc. Lond.*, III, 1928, pp. 71, 72. The female forms collected by him in two days at Arua, W. Nile District, near the Uganda–Sudan border, are shown in the following list :—

*No.* 1155: *August* 10.—"Flew on to steamer on Nile"—2 ♀ only, *lutea* and *adelina*.

*No.* 1156: *August* 11.—"The migrant *Cymothoe* mentioned in letter." The series included 30 ♂, of which 10 were set and found to be similar to Miss Vinall's from the Belgian Congo, and like these very uniform. The females were as follows :—

(*a*.)—1 "*euthalioides*."

(*b*.)—46 examples, making a complete and most gradual transition from a very pale *lutea* (itself transitional into *conformis*, absent from the series) to a very dark *adelina.* Traces of the pale fascia of *dumensis*, Strand, on fore- or hind-wing or both, appear in occasional examples of both pale and dark females in this group.

(*c.*)—7 females in which the pale fascia is emphasised on both wings are not included in the above group. Three of them, with the pale sienna tint of *lutea*, resemble an example of *rubida*, Holl., in the Brit. Mus. Coll. In two others the pale fascia is sharper, the sienna richer and the marginal pattern heavier than in Brit. Mus. examples of *dumensis*; while the two last are similar except for the pale fascia which resembles that of the B.M. *dumensis.*

(*d.*)—The remaining 5 females are of great interest. Two are the dark form *obscura*, Schultze, with very faint traces of a sienna fascia, chiefly in F.W., and barely visible in one. Two, with the same general dusky appearance and a far more pronounced fascia, are forms of *corsandra*, Druce, one of them having the F.W. fascia deep sienna not pale as in Druce's type, the other with considerably more sienna in H.W. fascia and rather more in F.W. The fifth and last female is transitional between the female forms *obscura* and *caenis*, Drury, with a pronounced white fascia continuous through both F. and H.W., making with the dark ground-colour a very conspicuous pattern. This, the predominant female form in parts of the West Coast, was entirely absent from the collections here described, although the development of the pale fascia (especially in the F.W.) of this fifth specimen appears to be truly intermediate.

No. 1171 : *October* 9–12.—Near Entebbe—9 ♂, 2 ♀ *adelina*, the sienna of one being rather darker than the type. " The migratory *Cymothoe* seen for a few days."

No. 1172 : *October* 13–19.—Near Entebbe—1 ♂. " Almost all gone."

Capt. C. R. S. Pitman's captures were effected near these later dates, towards the middle of October; and even on November 17, Dr. Carpenter wrote : " *Cymothoe caenis* is still lingering in the neighbourhood of Entebbe." It was of much interest to observe that, although the female forms appeared to be the same, the black marginal pattern of the males in the following list of Capt. Pitman's specimens is more strongly pronounced than that of Dr. Carpenter's males collected on August 11 and Miss Vinall's in the Congo. Furthermore six males taken by Dr. Carpenter, 11 July, 1927, in N. Uganda, on Patiri Hill, Alero, are also more heavily marked than those of August 11 in the present year. These slight but significant differences between the patterns of the migrating males in 1928 appear to prove the existence of a continued immigration bringing into Uganda different, probably seasonal, types, from a more western area.

Capt. Pitman's examples of *C. caenis* are as follows :—

October 11.—1 ♂, 3 ♀, 1 being pale *lutea*, 1 transitional from *lutea* to *adelina*, 1 *adelina.*

October 12.—1 ♂.

October 13.—3 ♂, 1 ♀ transitional from *lutea* to *adelina.*

The female polymorphism of *Cymothoe caenis* appears to be even more interesting in its local differences, in spite of the migratory habit, than in the number and variety of the female forms, astonishing as these are. The preceding record sets forth the immense difference between the female forms collected by Miss Vinall in the Belgian Congo and those migrating in Uganda, as well as the difference between the females from both these collections and those from the West Coast, in that the *caenis* female, predominant in the latter, was absent from the former. A complete list of all the female forms known from the entire range of the species, with the numbers of each form received from each locality, would be of the highest interest in itself, and also in providing a criterion by which we may hope to determine the rate and amount of future changes. Mr. A. Hall has kindly undertaken to prepare such a list of the fine material in the British Museum, and it is to be hoped that the specimens in the Tring and Witley Museums may be simultaneously recorded.

DANAINE AND ACRAEINE BUTTERFLIES EATEN BY BIRDS AT AMANI, NEAR TANGA, E. AFRICA.—Prof. POULTON exhibited a series of rejected wings of butterflies sent to him on 28 October, 1928, by Mr. C. B. Williams of the East African Agricultural Research Station at Amani. The specimens were accompanied by the following note :—

"I suppose every additional bit of evidence with regard to the enemies of insects is of value, so I am sending you a number of butterfly wings that I found on the doorstep of a disused house at Amani a couple of weeks ago."

"From the presence of weeds on the steps and the way the wings were under them" Mr. Williams was inclined to think that the captors were lizards. There are, however, distinct beak-marks on many of the specimens—on one exactly in the position near the base where Dr. Lamborn has shown that the beak is applied in tearing off a wing (*Proc. Ent. Soc. Lond.*, 1920, pp. xxiv–xxix). Furthermore the number of examples of one species pointed to the conclusion that the predaceous foe had been hunting butterflies and returned with each capture to a convenient resting-place where the wings were torn off. The choice of Danaines and Acraeines was probably determined by the fact that these were the commonest, most conspicuous and easiest to catch of all the butterflies flying near at hand, and that the bird was very hungry. Special attacks by birds on DANAINAE in Ceylon have been recorded by Mr. J. C. F. Fryer (*ibid.*, 1913, p. xliii), and Mr. C. F. M. Swynnerton has shown that birds, when sufficiently hungry, will devour the butterflies which are largest and nearest until, as their hunger is gradually appeased, they become more and more critical (*ibid.*, 1915, pp. xxxii–xliii). The whole discussion was of interest in connection with Mr. Williams' exhibit (*ibid.*, 1915, pp. xxii–xliv; 1916, p. lxiv).

The wings belonged to 6 or 7 examples of *Amauris niavius dominicanus*, Trim.; 1 *Amauris albimaculata*, Butl.; 1 *Planema aganice*, Hew., ♀; 1 *Acraea pharsalus*, Ward, ♂. There were in addition the much-rubbed wings of a small moth, probably a Noctuid. It was probable that most of the rejected wings had blown away, leaving only those which happened to fall well into the weedy growth. Hence most of the butterflies were only represented by one or two wings, and these generally much torn and notched. For this reason it was only possible to determine the sex of certain specimens.

FURTHER NOTES ON THE ABUNDANCE OF *TINEA UTERELLA*, WLSM., IN UGANDA, BY CAPT. C. R. S. PITMAN.—Prof. POULTON exhibited examples of the larva-cases sent to him by Capt. Pitman, with the following notes :—

" Entebbe, 3800 ft., 24.x.1928.—Very plentiful on the white-washed and distempered walls of dwelling-houses. The larvae active at night.

" Gulu, N. Province, 14.ix.1928.—Found in thousands in a mud-walled, grass-roofed but concrete-floored dwelling hut. At night the floor was literally alive with them."

The different materials woven into the cases caused each of these two series to differ slightly in colour from the other and from the specimens sent by Dr. Lamborn from Nyasaland (*Proc. Ent. Soc. Lond.*, 1928, Vol. III, pp. 72, 73).

[Shortly after the meeting I received a letter from Mr. George L. R. Hancock who wrote, 13 November, 1928, from Kampala :—" Mr. Pitman was showing me some proofs of your note on *Tineola uterella*, and I see that you had no specimens of the moths but only the cases. Some moths were sent from here last year to the Imperial Bureau of Entomology and were named as *Tinea pachyspila*, Meyr." I sent Mr. Hancock's letter to Dr. Marshall, who was informed by Mr. Stringer that no difference could be detected between *uterella* and *pachyspila*.—E.B.P.

Mr. Meyrick has now kindly written the following note :—

" I am indebted to Dr. G. A. K. Marshall for calling my attention, on the motion of Professor Poulton, to the identity of the Old-World *Tinea pachyspila*, Meyr., with the New-World *uterella*, Wals. (erroneously described by Walsingham as a *Tineola*); on comparison I see that they are undoubtedly identical; *uterella* is the earlier name. The species, which ranges in the Old World from West Africa to Samoa, is therefore practically cosmopolitan in sufficiently hot regions.—EDWARD MEYRICK, Dec. 18th, 1928."]

" STRANGE BEHAVIOUR OF CERTAIN BIRDS WHEN IN POSSESSION OF STRONG SMELLING INSECTS."—Prof. POULTON said that his friend Mr. B. B. Osmaston had informed him of some remarkable observations he had published under the above title in the " Journal of the Bombay Natural History Society " (Vol. xix, 1909–10, p. 752). It was probable that similar behaviour was exhibited by other birds, and in the hope that further observations would be directed to the subject, Mr. Osmaston's records were quoted below :—

" During the last few years I have repeatedly noticed that certain birds, notably babblers, in confinement, go through extraordinary antics when presented with strong-smelling insects, *e.g.*, bugs (Hemiptera), which when irritated emit a powerfully smelling secretion in self-defence.

" If, for instance, a bug of the above kind be offered to a laughing thrush (I have experimented with *Trochalopterum erythrocephalum* and *nigrimentum*; also *Dryonastes coerulatus*) it will seize it in its beak and make repeated efforts to press it against the underside of its tail-feathers, near their base.

" In order to do this it is obliged to bend round its head and to bring its tail forward.

" This it does with considerable energy, so much so that I have seen the bird lose its balance and fall over, quite a ludicrous performance.

" After this has been going on for a minute or so, the bird gradually relaxes its efforts and eventually swallows the insect." Mr. Osmaston believed that he had also observed the same behaviour in the Andamanese Tree-pie (*Dendrocitta baylei*) in the Andamans. It appeared probable that by the treatment described the insect was driven to eject the whole of its available supply of defensive secretions.

Mr. W. J. Kaye showed a number of lantern slides to illustrate a collecting expedition in Costa Rica.

### *Papers.*

The following papers were read :—

1. " Acrididae collected in Tanganyika Territory," by Mr. N. C. E. Miller.
2. " Collembola from Abyssinia," by Dr. E. Handschin.
3. " Scent Organs of *Opsiphanes cassiae lucullus*, Fruhst. (Lep., Brassolidae)," by Dr. H. Eltringham.
4. " Taxonomy, Phylogeny and Distribution of New Zealand Cicadas," by Dr. J. G. Myers.
5. " On the repugnatorial glands of *Corixa*," by Mrs. H. H. Brindley.
6. " On Oxyhaemaglobin in *Macroçorixa geoffroyi*," by Mrs. H. H. Brindley, who illustrated her remarks with lantern slides.

## ANNUAL MEETING.

### Wednesday, January 16th, 1929.

Mr. J. E. Collin, President, in the Chair.

Dr. S. A. Neave, one of the Secretaries, read the names of the Fellows nominated as Officers and Council for the ensuing year and announced that they had been duly elected in accordance with the Bye-Laws. In this connection, he said that Mr. W. G. Sheldon had found it necessary to resign the Treasurership and that the Council had nominated Captain A. F. Hemming, C.B.E., in his place. He then read the following :—

### Report of the Council.

In addition to carrying on the usual routine work of the Society, the Council have had several important problems to consider during the year.

The negotiations to obtain relief from Income Tax referred to in the previous Report have been continued during the year, and the Council has much satisfaction in being able to report that these have at last met with success. A more detailed statement on this point will be found in the Treasurer's Report. In this connection the Council wishes to place on record the great assistance rendered by one of its members, Captain A. F. Hemming.

Much of the time of the Council has been occupied with the plans and arrangements for the New Meeting Room, the building of which during 1929 was foreshadowed in the last report.

Before committing the Society to the policy of erecting the room at the basement level on its present premises, it was thought advisable to explore other alternative schemes. Consideration was therefore given to the possibility of purchasing an adjoining house. One of these had recently been offered for sale, and it was hoped that it might provide better facilities for a suitable room and would at the same time provide extended accommodation for the Society's tenants, The Imperial Bureau of Entomology. After some extended negotiations, in connection with which the Council is much indebted to Mr. R. W. Lloyd, it was found necessary to abandon this scheme, and during the later months of the year, the Council have concentrated their attention on arrangements for carrying on the work as originally planned.

As some of the final estimates have not yet been obtained, the Council cannot give the precise cost at this stage, but they consider that it should not materially exceed £5,500. This sum includes central heating to the whole building, the provision of a new cloakroom with lavatory accommodation, provision of a strong room, new housekeeper's accommodation at the rear of the building, and the external painting of the whole of the premises.

It is proposed at the same time to convert the present Meeting Room into the Society's Library, the cost of this, including an entirely new set of bookcases, being covered by the sum mentioned above.

Towards this the Council estimates that the amount already saved or otherwise allocated to the Meeting Room Fund will reach about £4,600 during the year. The Council have therefore felt justified in proceeding with the work, more especially as they have received and accepted an extraordinarily generous offer from Mr.

R. W. Lloyd to carry out at his own expense the entire interior decoration of the room and also to provide a very handsome rostrum and Presidential Chair. He proposes to panel the room in the style of the Bromley Room, now in the Victoria and Albert Museum, and there can be little doubt that as a result we shall have an extremely handsome room which will not only be a lasting monument to the munificence of the donor, but one which the Society itself could not have possibly afforded out of its own resources.

Another matter of fundamental importance to which the Council have devoted considerable attention is the proposed appointment of a paid official to take over some of the principal burdens of the executive officers. This course is the natural outcome of the marked growth of the Society and its activities generally during the last ten years. The appointment of such an official would necessarily involve certain changes in the constitution of the Society and therefore some considerable amendment of the Bye-Laws. The Council therefore appointed a special Sub-Committee to consider the question, and its report and recommendations have been accepted.

Briefly, these propose that the executive Officers shall be reduced to two, a Treasurer and a Secretary, and that a paid official, for whom the title of "Registrar" is proposed, shall be appointed at an early date.

The suggested alterations in the Bye-Laws will be announced at the Ordinary General Meetings held during February and March, and a Special Meeting to consider them will probably be held in April.

The coming year will obviously be one of even greater activity, and it is therefore all the more to be regretted that our Treasurer, Mr. W. G. Sheldon, has found it necessary to resign. He was not only mainly responsible for making it possible for us to purchase our present building, but he has been in charge of the Society's finances since 1918, and it is mainly due to his wise administration of these that the Society is in its present strong financial position. The Council have filled the vacancy thus created by the appointment of Captain A. F. Hemming for the remainder of the year.

Since the last Annual Meeting, the following 18 (13) Fellows have died, or their deaths have been ascertained, the numbers in brackets in this and the following paragraphs indicating the corresponding numbers for last year.

Professor C. AURIVILLIUS (Hon. Fellow), G. BETHELL, Hon. Mrs. B. CARPENTER, W. G. DAWSON, W. D. DRURY, J. H. DURRANT, J. EDWARDS, C. L. FOX, C. C. GOWDEY, Canon GROSE HODGE, C. W. HOWARD, C. F. JOHNSON, G. F. MATHEW, R. E. McCONNELL, J. A. NIX, E. B. NEVINSON, F. W. SOWERBY and F. C. WOODFORDE.

The following 10 (13) Fellows have resigned :—

F. W. BEENEY, G. BABAULT, J. W. COCKS, Rev. T. EDWARDES, F. W. FENTON, W. J. FORDHAM, V. KNIGHT, G. B. C. LEMAN, Major-General Sir H. C. K. TYTLER and E. J. WINSTANLEY.

The following 5 (5) names have been removed from the List of Fellows in accordance with the Bye-Laws, Chap. XV, sec. 3 :—

P. A. GLICK, W. E. JONES, W. J. LEIGH PHILLIPS, E. W. NIMMY, S. H. SKAIFE.

During the year, one Honorary, Prof. J. L. Reverdin, and 31 (36) Ordinary Fellows have been elected, but these additions have not done more than counterbalance the unusual numbers of deaths and other losses. The Society now consists of 11 Honorary Fellows, 3 Special Life Fellows, and 705 Ordinary Fellows.

The Meetings of the Society have again been well attended, the average number of Fellows and visitors at each being 64, the same as last year.

The two parts of the *Transactions* for 1928 (Vol. 76) were issued on August 18th, 1928, and January 15th, 1929, respectively, on which dates copies were on sale at the Society's Rooms. The question of the Society's liability to Income Tax not having been determined at the time of the allocation of funds for the publications, the amount available for the *Transactions* was necessarily reduced, and, but for the very material assistance received from a number of sources, the volume for the year would have been very much smaller than has ultimately proved to be the case. In spite of this, several papers have had to be held over for re-consideration in 1929.

Twenty-four papers have been published, by the following authors :—

H. E. Andrewes, 1; G. J. Arrow, 1; Edith Coleman (with an introductory note by Professor E. B. Poulton and an Appendix by A. M. Lea), 1; C. L. Collenette, 1; C. L. Collenette and G. Talbot, 1; Dr. H. Eltringham, 1; Dr. R. A. Fisher and E. B. Ford (with an Appendix by Professor E. B. Poulton), 1; Lt.-Colonel F. C. Fraser, 1; A. de B. Goodman, 1; Dr. G. D. Hale Carpenter, 1; E. Meyrick, 1; K. J. Morton, 1; Y. K. Okada, 1; A. Philpott, 1; Professor E. B. Poulton and N. D. Riley, 1; O. W. Richards, 1; Dr. R. J. Tillyard, 2; B. P. Uvarov, 1; C. J. Wainwright, 1; O. Whittaker, 1; A. E. Wileman, 1; C. B. Williams, 1; F. C. Woodforde (in collaboration with E. B. Ford, L. B. Prout and Professor E. B. Poulton), 1.

Of these, 12 deal with Lepidoptera, 3 with Coleoptera, 3 with Hymenoptera, 2 with Odonata, 2 with fossil insects, 1 with Diptera and 1 with Insect Metabolism.

The volume consists of 558 pages, and is illustrated by 24 plates, of which 4 are in colour, the remainder being in black and white.

The following contributions have been received or promised in respect of this volume :—

On the recommendation of the Committee of Civil Research, the Empire Marketing Board are defraying the entire cost of B. P. Uvarov's paper on Insect Metabolism.

The entire cost of Mrs. Coleman's paper and of Messrs. Ford and Fisher's paper including the coloured plate, from a grant authorised by Professor E. B. Poulton from the Oxford University fund for promoting the study of organic and social evolution.

The entire cost, including the plate, of Mr. Woodforde's paper, the cost of the coloured plate illustrating Mr. Collenette's paper and a contribution towards the cost of Dr. Carpenter's paper from a grant authorised by Jesus College, Oxford, from Professor Poulton's Fellowship.

Mr. Oscar Whittaker has contributed the cost of Plate XIII and Mr. Collenette that of Plate XXI. Dr. R. J. Tillyard and the Cawthron Institute, New Zealand, have also contributed towards the cost of illustrating the papers by Dr. Tillyard and Mr. A. Philpott.

The volume of the *Proceedings* will be approximately of the same size as last year, viz. about 90 pages, and it will be illustrated by two half-tone plates, the cost of one being borne by Capt. A. F. Hemming, and a few text-figures.

The detailed work of the Society's business has been carried on by a Finance and Housing Committee under the Chairmanship of Mr. R. W. Lloyd, a Publication Committee under that of Dr. K. Jordan, and a Library Committee under that of Dr. E. A. Cockayne. The thanks of the Council are again due to those Fellows who have served on these Committees.

The Hon. Librarian reports that there has again been an increase in the numbers of those consulting or borrowing books during the year, and points out that though this is evidence of the growing usefulness of the Library, it places an increased burden on the limited staff. Further, owing to the recent abnormal amount of office work in the conduct of the Society's affairs, less of the Sub-librarian's time has been available for the necessary work in connection with the books and Separates. Nevertheless, a very large proportion of the latter is now readily available for consultation.

The completeness of the Library is very largely a matter of finance. The major portion of the hundred and odd pounds annually allotted to it is already earmarked for the purchase of periodicals and the binding of books, the latter being an item considerably in arrear. Consequently little remains for new books, particularly the expensive works not likely to be acquired by the average student in these days. In the near future it is confidently to be hoped that it will be possible to devote a considerably greater sum annually for the support and increase of this department of the Society's work.

The Hon. Secretary of the Committee for the Protection of British Lepidoptera reports that the colony of *Chrysophanus dispar batavus* in Wood Walton Fen is now firmly established. In spite of the 60 days' flood during the winter of 1927–1928, 73 larvae were found in the spring which had safely come through the winter. One hundred and fifty larvae were turned down in the spring from the stock hibernated in confinement, and about 1000 imagines were released. The fine summer of 1928 was especially favourable to the butterfly. They were out from the end of June until after 20th August, and were a magnificent sight, both on the wing and while feeding on the special beds of flowers which had been planted for them.

A number of Entomologists visited the Fen and were keenly interested in all they saw. A very large number of larvae are hibernating in the Fen, and a big reserve stock is also being brought through in confinement.

The Report was adopted on the motion of Commander J. J. Walker, seconded by Mr. E. E. Green.

## The Treasurer's Report.

Capt. A. F. Hemming then read the following Report :—

During the year 1928 the Society's financial position has improved in various ways.

The sum set aside for the proposed New Meeting Room, which a year ago stood at £2,591 1*s.* 3*d.*, has now reached the sum of £3,657 14*s.* 10*d.* This exceeds by £112 the estimate as for January 1929 made when the Society began to set aside money for this purpose.

There is a reduction in the amount realised by the sale of publications of £176 9*s.* 0*d.*, the total in 1928 being £356 13*s.* 9*d.* as against £533 2*s.* 9*d.* in 1927. This source of revenue is always liable to fluctuation. The sum of £702 12*s.* 1*d.* has been spent upon the *Transactions* and *Proceedings* and the sum of £101 16*s.* 6*d.* upon new books. The cost of repairs to premises, £23 17*s.* 8*d.*, has again been very low.

During the year the Society received a bequest of £50 from the late Colonel J. W. Yerbury, and one of £10 from the late M. Brunetti; the latter was not a Fellow.

Details of the contributions towards the cost of the Society's publications will be found in the Council's Report. The amount actually received on this account in 1928 is £128 7*s.* 4*d.*

During the year the Government made an offer to holders of the 5% National War Bonds, 1928 series, to convert them into 4% Consolidated Loan at £115 of the latter for £100 of the former. The Council took advantage of this offer.

In the Treasurer's Report last year it was stated that the Council were taking all possible steps to obtain the relief from Income Tax which the Society had until recently enjoyed. The Council have contended that the Society is "a body of persons or a Trust established for charitable purposes only" and therefore exempt under Section 37, Subsection (1) (*a*) and Subsection (1) (*b*) of the Income Tax Act 1918 from liability for the payment of Income Tax. In the course of the last twelve months two important test cases have been determined. In each case the Court found in favour of the Revenue, but in the second case the Court of Appeal laid down the general principles by which claims for exemption of this class should in future be considered. The claim of the Society has been re-examined by the Board of Inland Revenue in the light of these judgments with the result that the Board have now formally intimated that our claim to exemption under the Statute quoted above is admitted.

The total of the Society's investments and money available for investment, which a year ago amounted to £11,503 5*s.* 5*d.* is now £12,653 17*s.* 10*d.*, an increase during the year of £1,150 12*s.* 5*d.* Eleven years ago the value of the Society's investments as set forth in the Financial Statement for 1917 was £879 7*s.* 3*d.*

In 1921 a rough estimate was made of the value of the Library, which was then considered to be worth approximately £5,000. Since then the sum of £782 has been spent on new books. In addition there has been a substantial rise in the market value of the scarcer and more expensive Entomological works. For these reasons it is probable that the Library to-day is worth substantially more than £5,000.

The Report and Accounts were adopted on the motion of Mr. W. J. Kaye, seconded by Mr. H. Main.

The President then read his address on "Entomological Organisation," and at its conclusion a vote of thanks to him, coupled with the request that it might be printed in the *Proceedings*, was moved by Dr. K. Jordan, seconded by Mr. H. E. Andrewes, and carried unanimously.

A vote of thanks to the Officers for their services during the year was then passed on the motion of Mr. H. Willoughby Ellis, seconded by the Rev. G. Wheeler, and Dr. S. A. Neave, Mr. N. D. Riley and Mr. H. J. Turner briefly replied.

# THE ENTOMOLOGICAL SOCIETY OF LONDON.

## TREASURER'S ACCOUNTS for the Year ended December 31st, 1928.

(Presented at the Annual Meeting, January 16, 1929.)

### RECEIPTS AND PAYMENTS ACCOUNT.

RECEIPTS.

| | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| To Cash at Bank and in hand, as per last account— | | | | | | |
| General Account | 1,176 | 4 | 10 | | | |
| Compounding Fund | 50 | 8 | 0 | | | |
| Repairs to Premises Fund | 93 | 9 | 9 | | | |
| | 1,320 | 2 | 7 | | | |
| *Less* Library Fund (overdrawn) | 5 | 13 | 5 | | | |
| | | | | 1,314 | 9 | 2 |
| ,, Interest on Investments— | | | | | | |
| Birmingham 3% Stock | 5 | 15 | 0 | | | |
| Consols | 27 | 1 | 8 | | | |
| National War Bonds and Treasury Bonds | 29 | 13 | 2 | | | |
| Hamilton Druce Bequest | 35 | 1 | 4 | | | |
| ,, Interest on Deposit— | | | | | | |
| General Account | 29 | 14 | 9 | | | |
| Rents from Sub-tenants | 395 | 0 | 0 | | | |
| | | | | 522 | 5 | 11 |
| Contributions by Sub-tenants towards House Expenses and Salaries | | | | 144 | 9 | 1 |
| ,, Admission Fees | | | | 85 | 1 | 0 |
| ,, Annual Subscriptions— | | | | | | |
| Arrears of previous years | 53 | 5 | 9 | | | |
| Year ended 31 December, 1928 | 1,241 | 4 | 1 | | | |
| In advance | 45 | 16 | 5 | | | |
| | | | | 1,340 | 6 | 3 |
| (Subscriptions for 1928 received in 1927 and previous years, £39 11*s.* 0*d.*) | | | | | | |
| ,, Sales of Publications | | | | 356 | 13 | 9 |
| ,, Donations in aid of Publications | | | | 128 | 7 | 4 |
| ,, Bequest from the late Col. P. W. Yerbury | | | | 50 | 0 | 0 |
| ,, Bequest from the late F. Brunetti | | | | 10 | 0 | 0 |
| | | | | £3,951 | 12 | 6 |

PAYMENTS.

| | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| By Salaries | | | | 351 | 7 | 5 |
| ,, Library— | | | | | | |
| * New Books | 101 | 16 | 6 | | | |
| Binding-repairs and Insurance | 25 | 7 | 6 | | | |
| | | | | 127 | 4 | 0 |
| ,, Cost of Publications— | | | | | | |
| Printing and Distribution | 619 | 13 | 7 | | | |
| Illustrations | 82 | 18 | 6 | | | |
| | | | | 702 | 12 | 1 |
| ,, Sundry Printing and Stationery | 43 | 7 | 5 | | | |
| ,, Postage | 22 | 8 | 3 | | | |
| ,, Audit Fee | 10 | 10 | 0 | | | |
| ,, Donation to the Zoological Record | 25 | 0 | 0 | | | |
| ,, Miscellaneous Expenses | 72 | 4 | 7 | | | |
| | | | | 173 | 10 | 3 |
| ,, House Expenses— | | | | | | |
| Fuel, Gas and Electric Light | 79 | 7 | 11 | | | |
| Rates and Insurance | 16 | 17 | 2 | | | |
| Water | 16 | 7 | 4 | | | |
| Repairs | 23 | 17 | 8 | | | |
| | | | | 136 | 10 | 1 |
| ,, Transfer to Meeting Room Fund | | | | 929 | 6 | 3 |
| ,, Purchase of Treasury Bonds 1933–5 | | | | 49 | 13 | 3 |
| ,, Cash at Bank and in Hand— | | | | | | |
| General Account | 1,228 | 19 | 9 | | | |
| Compounding Fund | 43 | 5 | 3 | | | |
| Westwood Bequest Fund | 5 | 15 | 0 | | | |
| Repairs to Premises Fund | 139 | 12 | 1 | | | |
| Library Fund | 3 | 8 | 2 | | | |
| Donations for Specific Purposes | 60 | 8 | 11 | | | |
| | | | | 1,481 | 9 | 2 |
| | | | | £3,951 | 12 | 6 |

* Including Periodicals and the cost of binding them.

## STATEMENT OF ASSETS AND LIABILITIES—DECEMBER 31, 1928.

### ASSETS.

| | £ *s.* *d.* | £ *s.* *d.* | £ *s.* *d.* |
|---|---|---|---|
| To Freehold Premises, 41 Queen's Gate, S.W., Cost of Purchase ... ... ... ... | | | 6,250 0 0 |
| ,, Library Furniture and Fittings ... ... | | Not valued.* | |
| ,, Present Value of— | | | |
| £1,354 2*s.* 2*d.* Consols (Compounding Fund—Cost £1,233 3*s.* 0*d.*) ... ... ... ... | | 770 3 0 | |
| £920 4*s.* 4*d.* 4% Consolidated Loan (Compounding Fund—Cost £760 0*s.* 3*d.*) ... | | 800 11 9 | |
| £239 12*s.* 4*d.* Birmingham Corporation 3% Stock, 1947 (Westwood Bequest—Cost £250) ... ... ... ... ... ... | | 156 18 8 | |
| £3,010 4*s.* 8*d.* National War Bonds, 1929 (New Meeting Room Fund—Cost £3,176 6*s.* 1*d.*) ... ... ... ... ... | | 3,160 15 1 | |
| £1,095 15*s.* 6*d.* New Zealand 4% Stock, 1943–63 (Hamilton Druce Bequest Fund—Cost £1,000) ... ... ... ... ... | | 975 4 4 | |
| | | | 5,863 12 10 |
| ,, Amounts due to the Society— | | | |
| Subscriptions ... ... ... ... ... | | 105 0 0 | |
| Admission Fees ... ... ... ... | | 25 4 0 | |
| Publications ... ... ... ... ... | | 9 13 4 | |
| Rents and Contributions to House Expenses | | 117 10 0 | |
| Income Tax Recoverable ... ... ... | | 44 17 10 | |
| Sundries ... ... ... ... ... | | 19 11 3 | |
| | | 321 16 5 | |
| *Less*— Not considered good ... ... ... ... | | 25 0 0 | |
| | | | 296 16 5 |
| ,, Cash at Bank and in Hand— | | | |
| General Account: | | | |
| Current Account ... ... | 122 4 1 | | |
| Deposit Account ... ... | 1,100 0 0 | | |
| Cash in Hand ... ... | 6 15 8 | | |
| | | 1,228 19 9 | |
| ,, Donations for Specific Purposes—Current Account ... ... ... ... ... | | 60 8 11 | |
| ,, New Meeting Room Fund— | | | |
| Current Account ... ... | 87 13 6 | | |
| Deposit Account ... ... | 409 6 3 | | |
| | | 496 19 9 | |
| ,, Compounding Fund—Current Account ... | | 43 5 3 | |
| ,, Westwood Bequest Fund—Current Account ... | | 5 15 0 | |
| ,, Library Fund—Current Account ... ... | | 3 8 2 | |
| ,, Repairs to Premises Fund—Current Account... | | 139 12 1 | |
| | | | 1,978 8 11 |
| | | | £14,388 18 2 |

### LIABILITIES.

| | £ *s.* *d.* | £ *s.* *d.* |
|---|---|---|
| By Amounts due from the Society | | |
| Printing *Transactions* Part II and *Proceedings* Parts II and III ... ... ... | 320 13 4 | |
| Sundry Accounts ... ... ... ... | 442 1 8 | |
| Subscriptions received in advance ... ... | 57 5 5 | |
| | | 820 0 5 |
| ,, Excess of Assets over Liabilities— | | |
| General Account ... ... ... ... | 975 17 11 | |
| Donations for Specific Purposes ... ... | 60 8 11 | |
| Housing Fund ...... ... ... ... | 6,250 0 0 | |
| New Meeting Room Fund ... ... ... | 3,342 14 10 | |
| Compounding Fund ... ... ... ... | 1,634 16 11 | |
| Westwood Bequest Fund ... ... ... | 164 16 8 | |
| Library Fund ... ... ... ... ... | 25 6 1 | |
| Hamilton Druce Bequest Fund ... ... | 975 4 4 | |
| Repairs to Premises Fund ... ... ... | 139 12 1 | |
| | | 13,568 17 9 |
| | | £14,388 18 2 |

---

* See the last paragraph of the Treasurer's Report.

## NEW MEETING ROOM FUND.

| | £ s. d. | £ s. d. | | £ s. d. | £ s. d. |
|---|---|---|---|---|---|
| To Receipts to 1927 ... ... ... ... ... | 2,603 0 11 | | By Amounts invested to 1927 ... ... ... | 2,536 6 1 | |
| ,, ,, in 1928 ... ... ... ... ... | 1,070 4 11 | | ,, ,, ,, in 1928 ... ... ... | 640 0 0 | |
| | | 3,673 5 10 | | | 3,176 6 1 |
| | | | ,, Balance at Bank at date ... ... ... ... ... | | 496 19 9 |
| | | £3,673 5 10 | | | £3,673 5 10 |

## COMPOUNDING FUND.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| To Balance at Bank as per last Account ... ... ... ... | 50 8 0 | By Investment in £48 7*s.* 8*d.* 5% Treasury Bonds 1933–5 ... | 49 13 3 |
| ,, One half Admission Fees received in 1928 ... ... ... | 42 10 6 | ,, Balance at Bank at date ... ... ... ... ... | 43 5 3 |
| | £92 18 6 | | £92 18 6 |

## WESTWOOD BEQUEST FUND.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| To Interest on £239 12*s.* 4*d.* Birmingham 3% Stock ... ... | 5 15 0 | By Balance at Bank at date ... ... ... ... ... | 5 15 0 |

## LIBRARY FUND.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| To Interest on Hamilton Druce Bequest ... ... ... | 35 1 4 | By Balance at Bank overdrawn per last Account ... ... | 5 13 5 |
| ,, Transfer from General Account ... ... ... ... | 33 6 3 | ,, Expenditure on New Books ... ... ... ... ... | 101 16 6 |
| ,, One half of Admission Fees received in 1928 ... ... ... | 42 10 6 | ,, Balance at Bank at date ... ... ... ... ... | 3 8 2 |
| | £110 18 1 | | £110 18 1 |

## REPAIRS TO PREMISES FUND.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| To Balance at Bank as per last Account ... ... ... ... | 93 9 9 | By Payments for Repairs to Premises ... ... ... ... | 23 17 8 |
| ,, Amount transferred from General Account ... ... ... | 70 0 0 | ,, Balance at Bank at date ... .. ... ... | 139 12 1 |
| | £163 9 9 | | £163 9 9 |

W. G. Sheldon, *Treasurer.*

We have audited the Treasurer's Accounts of Receipts and Payments and the statement of Assets and Liabilities with the Books and Vouchers and certify them to be correct. The Solicitors have certified to us that they hold the Deeds of 41 Queen's Gate for safe custody on behalf of the Society and we have verified the other Investments and the Bank balances.

*23, Queen Victoria Street, London, E.C.* 4.
*January* 14*th*, 1929.

W B. Keen & Co., *Chartered Accountants.*

# THE PRESIDENT'S ADDRESS.

Ladies and Gentlemen,

You have heard the Report of the Council and the Treasurer's Report and will realise that important decisions have been made in regard to the future of the Society. After eight years of comparative quiescence the Society is about to take another step forward, by appointing a paid Official and building a new Meeting Room.

The appointment of a paid Official has long been advocated as very necessary in a Society of the size and importance of our own, and though it might be thought that the money to be so spent could be used with still greater advantage to the Society in other ways, for instance—expenditure on the Library, still, with the large increase in recent years in secretarial work, it seems hardly fair to ask or expect one or two Fellows voluntarily to do the work for us. It cannot be repeated too often how heavily indebted are all the Fellows of the Society to those few who have in the past undertaken the duties of Honorary Officials.

In building the new Meeting Room the Society will be carrying out a scheme which it had in mind when it moved into these premises. It was then realised that this room in which we are now meeting was far from being an ideal one for the purpose, but the Society looked forward to the time when the space occupied by the Garage at the rear could be utilised for a new Meeting Room. The carrying out of this scheme at so early a date would not have been possible without the organising ability, and capacity for husbanding resources, of our Treasurer. The accumulation of the necessary funds is largely due to his pertinacity in exercising control over the expenditure of the Society's income; it is therefore all the more to be regretted that he should have felt obliged from personal reasons to resign his office before the final consummation of his work. In addition to these building operations having been made possible by the work of the Treasurer, we are further assured of possessing a Meeting Room decorated and appointed in a far more luxurious style than originally planned, with a reduction in cost to the Society, through the magnificent generosity of a Fellow. I am sure you would wish me to convey the grateful thanks of the Society to this Fellow for his generous gift, and to the Treasurer for his many years of devoted service to the Society.

It is also a matter for great satisfaction that the Government has so far recognised the value to the community of our work as a Society as to concede the right to continued exemption for us from payment of Income Tax.

The sad part of the Council's Report is that recording the death of eighteen Fellows. I should like to refer briefly to three who have been associated with the actual working of the Society.

Gervase F. Mathew served on the Council in 1887 and at the time of his death had established the record, which few can expect to equal, of having been a Fellow of the Society for sixty-five years.

George Bethell, Registrar of the Medical Society, was for many years our own resident Librarian when we occupied rooms at Chandos Street, Cavendish Square. In that capacity he earned the respect and esteem of every Fellow with whom he came in contact. He joined the Society when we moved from Chandos Street in 1920.

John Hartley Durrant was Vice-President in 1912–13 and served on the Council in 1911–13 and 1919–21, while in addition he had been a very useful member of various committees and Secretary of the British National Committee on Entomological Nomenclature. The sympathy and friendliness with which he met any request for help or advice must have endeared him to many, and all who knew him will wish, I am sure, to join with me in an expression of regret at the loss of such a colleague.

Among Entomologists outside the Society, the death of Theodore Becker of Liegnitz was an outstanding loss to the science of Dipterology. In the course of a long life he contributed a very large number of extremely useful publications covering a wide field in the Diptera, sufficient to ensure that his name may be worthily associated with such as Loew, Schiner and Mik in the history of European Dipterology.

In my address last year I tried to point out to you some of the difficulties with which Entomology—and especially Entomological Taxonomy—is faced, as a result of the increased interest in the study of insects that has taken place in recent years. To-night I propose to take as my subject "ENTOMOLOGICAL ORGANISATION" in an attempt to discover how some, at least, of these difficulties may be met and overcome.

When one takes a retrospective view of the history of Entomology one finds that it has developed on very similar lines to any other science. The origin in every case can be traced to the work of an individual or a few isolated individuals. The work is invariably scoffed at by generations of other individuals whose ignorance, narrowness of outlook, or lack of imagination prevent any appreciation of what is being attempted. The rate of advance may be very slow for many centuries and there may be periods of utter stagnation, but sooner or later there comes a time when an immense acceleration takes place. As the workers become more and more numerous the necessity of some means of keeping them in touch with each other becomes apparent, and organisations first local, then national and finally international, become necessary. How has Entomology fared in this matter of organisation? Do existing arrangements meet the needs of Entomologists? If not, what is required? These are questions to which it is necessary that we should find answers.

It is, I suppose, only natural that organisation in Entomology, as in most other matters, has never quite kept pace with the increased need for it. This has had no serious consequences in the past because progress has been slow; up to at least the end of the last century, the accumulation of what may be called the products of Entomological Research never attained such proportions as to overload to the point of a breakdown, the machinery available for sorting, checking and distributing it. This machinery, which has so far performed its task with ever-increasing strain, is what I propose to examine this evening. It has been mainly built up by private individuals or associations of individuals, sometimes (though rarely and to a very modest extent) with some slight assistance from public funds, an assistance which future generations, more enlightened as to the value of the work, will regard as having been hopelessly inadequate. At the present time this machinery is strained to the utmost of its capacity, and some means of increasing its output is a matter of urgency. Some of it must undoubtedly be scrapped; it was designed to deal with those classes of the Animal Kingdom which so far have been looked upon as the more important with little or no reference to the needs of the Insecta, and is incapable of dealing with the problems peculiar to that class.

It is a necessary preliminary in investigating this subject to consider what are the requirements of Entomology. The two primary requirements are: first, the collection of specimens; second, the naming, description and classification of the species so that they may be recognised and referred to by name. Intensive studies of individual species may materially help in the classification and is an absolute essential in dealing with the control of insects, but for reference purposes they must first have a name. Moreover, the necessity of being certain of the identity of an insect is of the first importance when making observations on its bionomics, otherwise great confusion will result. The work of description and classification (or taxonomy as it is often called) is the dominant feature of Entomology at the present time and will continue so to be for some time to come. In this particular department Entomology has by no means reached the stage attained by some of the other branches of Zoology, and owing to the number of species in the Insecta being infinitely larger than in any other class of the Animal Kingdom and the microscopic size of so many of them, the work will take so much longer and be so much the more difficult. Therefore in studying an overhaul of the machinery of Entomological organisation a prominent position must be accorded to the needs of taxonomy. There are various other matters connected with the two primary requirements mentioned above which must also receive our attention, for instance the means of dealing with insect material when collected, arrangements for classifying and recording the work of taxonomists, and finally the functions of Entomological Societies and similar institutions. We will deal with all these matters in the following order under the headings of :—1. Collection of material; 2. Utilisation and distribution of material; 3. Taxonomy; 4. Literature and Records; 5. Entomological Institutions.

1. *Collection of Material.* This has, so far, except for one or two outstanding exceptions, been haphazard and unorganised. The fauna of a district has seldom been systematically collected. Collecting has mainly been carried out by individuals working independently, some few of them with the laudable idea of either providing material for specialists or enriching the collections of National Entomological Institutions, the majority actuated only by a desire to get together as many different species as possible or a collection better and more complete than that of

a colleague. These collections may pass in their entirety to other collectors, be sold and distributed among many other collections, or pass to some museum where in most cases they lie buried with no one to work at them. In addition to the material thus accumulated there has been a large increase in recent years in the amount sent home to their respective countries by the large number of Government Entomologists appointed to Colonial posts and Medical Officers now interested in Entomology as a result of the discovery—or rather the tardy recognition of the discovery—that insects are an important factor in matters connected with the health and prosperity of the human race.

One cannot but admit that a considerable proportion of all this collecting work is wasted effort due partly to the collectors themselves and partly to the lack of organised co-operative effort in dealing with the material collected. Collectors would render a greater service to Entomology if instead of the usual indiscriminate collecting they would try to become acquainted with the difficulties which face those who have to classify their captures, and would aim at supplying with their material more information as to habits and associations, and accept advice from taxonomists as to what they should collect and when and where they should try to collect it. For one instance, organised collecting in the recorded localities of the type specimens (now lost or destroyed) of some of the older species would often greatly help in clearing up the work of the past. We have had many examples brought to our notice by various Fellows of the value of intelligently directed and encouraged collecting in throwing light on problems which would otherwise remain obscure, by no means the least in value being those due to the efforts of our distinguished colleague and ex-President Prof. E. B. Poulton. The collecting instinct is very strong in many people; it often only requires directing into the right channels to become useful. Let us all remember this, and let those with the necessary knowledge of the various Entomological problems capable of being solved by work in the field, lose no opportunity of pointing them out to their less well-informed collecting friends and so pave the way to greater co-operative work between collector and taxonomist.

Finally, in this matter of collecting, the most valuable work is that done by specialists in the groups in which they are interested. It should be part of the routine of every systematic worker in a museum or other Entomological institution to spend a certain time each year in the field. They would return to their work with renewed vigour and interest, and the field experience should help them to avoid the many pitfalls into which those who work solely on museum material are so apt to fall.

2. *Utilisation and distribution of Material.* Under this section one has to consider material in private hands and that in public institutions. With regard to the former little can be said; it is private property the utilisation and distribution of which lies in the hands of its owners; if they are genuine Entomologists they will be anxious and willing that the best use shall be made of their material; if they are not, there is little hope of making them realise their responsibilities. In any case most of this material sooner or later finds its way into public institutions. With regard to the utilisation and distribution of Entomological material in public institutions there is abundant proof that drastic alterations in procedure are necessary. Every museum of any importance is attempting at the present time the impossible task

of dealing with the Insect Fauna of the world. There is no museum with an Entomological Department anything like large enough to accommodate the staff necessary to classify and arrange such a collection. The consequence is that every Entomological Department is suffering from hopeless congestion, and the completely inadequate staff ~~are~~ overwhelmed by a mass of unworked or partially worked and unarranged material. There would appear to be only one possible solution of this difficulty, and that is that the work must be split up and certain sections allocated to different museums. It would, in the first place, be the National Museums to which this would apply. Each National Museum would primarily deal with the Insect Fauna of its own country; it might also deal with the fauna of any of its Colonies or Dependencies of that particular country, or such as had no adequate museum accommodation, except that any division of a continent should if possible be defined by faunal rather than geographical boundaries. This would leave various independent countries which (1) have no National Museum, or (2) possess a climate in which it would be impossible or unsafe to keep collections. The duties of working out the fauna of such countries would be allocated to various existing museums. All material would go first to the museum dealing with the fauna of the region from which the material came, and all types of species described from any of the regions dealt with by a particular museum would be deposited in that museum. It should be the duty of each museum to distribute among the other museums authentically-named type-compared specimens of the species included in the fauna for which they are responsible. They should be distributed in the first place to those museums dealing with a fauna in which the particular species to be distributed is also known to occur. By these means every museum would come to possess (1) a complete collection of the fauna of a particular region and (2) a gradually built-up type-compared collection of the insects of the rest of the world. As and when a country provided an adequate National Museum the type collection for that particular country would be handed over to them by the museum previously responsible for that area and only duplicates retained.

Such an arrangement is probably impossible in its entirety at present owing to the fact that Entomological collections are mainly in the hands of Governments. That Government Departments should have control over the housing and care of Entomological collections is one of the greatest obstacles that Entomological science has to contend against. It seems impossible to make such Departments realise the importance of the subject or its international aspect. Entomologists, like other scientific men, have long ago come to realise that their work is international in character, but at present no Government has attained in its scientific activities an international outlook; unless they soon do so, or unless they hand over the sole control and management of their Entomological collections to Entomologists the Entomological Department of many museums will soon cease to function and become moribund.

In a country where there are smaller local museums as well as a National Museum, the former should arrange with each other to divide the country up into sections and each take over a section and specialise in working up collections of its fauna, after providing the National Museum with specimens of such species as it may not possess. Material collected in the area covered by a local museum should ultimately find a resting place in that museum. Duplicates would be distributed to other local museums, so that each such museum, in say Britain, would soon possess as complete a collection as possible of its local fauna and a gradually acquired general British collection. I shall return to the association of local Societies with such museums later when dealing with Entomological Institutions.

3. *Taxonomy.* This most important department of Entomological work, that of naming and classifying—the foundation of Entomological science—is one in which many changes are necessary or future progress will be seriously hindered if not actually stopped. Until the beginning of the present century it was possible for a taxonomist in his work to cover a wide field, to make useful contributions to science in many families or even Orders of insects. The number of his colleagues was small, there was a free interchange of the results of their investigations making it easy to keep in touch with the work done. The " Rules " governing taxonomic work were interpreted with a broadness of outlook and an exercise of common sense such as to cause the findings to be accepted almost universally—a matter of great importance. The position is very different at the present time. The number of taxonomists has greatly increased, they are scattered all over the world; there is a marked lack of co-operation and interchange of knowledge between those interested in the same groups, while a wide-spread desire for more definite Rules of Nomenclature has resulted in vain attempts to draw up rules which will be fool-proof when used to interpret the tangled synonymy of the past. In addition, the publication of a lot of Entomological work has fallen into the hands of commercial syndicates, with the consequent restriction of the issue of free separates to authors and an enhanced price to Entomologists in general. Some relief in this latter respect might result if every Entomologist would realise that it is his duty to insist that his work should be easily available to his colleagues, and that it is equally his duty to join the national Entomological Society of the country in which he lives and so co-operate in one of the primary objects of such societies, namely the publication of original Entomological work. The large amount and cost of Entomological literature, however, make it no longer possible for every taxonomist to hope to acquire all the literature relating to even a small group of insects. Taxonomists will be obliged in the near future to look to some central establishment to collect all Entomological literature and record, catalogue and index it, and probably photography will have to be used for making quick and accurate copies of original descriptions, figures and up-to-date lists and catalogues for distribution among such taxonomists who apply for them. It is also a question how much longer Entomological taxonomy can shoulder the burden imposed upon it by faulty and careless work. Such work is ignored in practically every other science except zoological taxonomy. It is surely not beyond the power of some International organisation to deal with this and other matters calling out for attention.

One cannot leave the subject of taxonomy without some reference to the Rules of Nomenclature. Early in the present century a strong feeling that the exercise of strict priority in the matter of nomenclature would bring about stability in the use of names, culminated in the production of a revised Code of Rules by the International Zoological Congress with strict priority as its basis. There was never much doubt concerning the ultimate attainment of stability in specific names by this means; but the attainment of stability in generic names by the application of the law of priority, where constant shuffling and re-shuffling has taken place, and will continue to take place, is a much more difficult matter. The authors of the Code might have attained some measure of stability by at least two different ways—(1) at the expense of sacrificing all previous work by adopting some definite arbitrary rule for genotype fixation such as the first of the originally contained species; (2) retaining the best of all previous work by the preparation and adoption of a list of genotypes for all described genera arbitrarily fixed with that end in view. They did neither, but approved a set of vague rules which included the principle of recognising the work of past revisers, and were obviously intended to facilitate the retention of as much as possible of past work in the application of generic names. When brought into use, however, the vagueness of these rules has often caused different investigators to arrive at quite different conclusions, with the result that confusion becomes worse confounded. One would imagine that, under these circumstances, the natural action of those in charge of the Rules would be to try and eliminate the vagueness in this particular section, and arrange that, if even then doubtful cases should arise, the decision should rest with some International Organisation. Instead of which in 1913 the Zoological Commission, without consulting the general body of working Entomological taxonomists, took the very retrograde step of adopting a recommendation that the first fixation of a genotype shall have priority over any previous work in the restriction of the use of a generic name, a ruling absolutely at variance with what had been previously agreed and based on the misconception that the older authors meant by their so-called "type of a genus" what we to-day mean by "genotype." This ruling should be repudiated by all Entomologists. And this brings me to the point of proposing that the time has arrived when Entomology should cut itself free from the leading strings of the Zoological Congress. It is no longer the small, greatly neglected, child of Zoology. It has outgrown its parent both in size and importance. The insect species of the world outnumber many times over the species of all the other classes of the Animal Kingdom put together, and play a far greater part in influencing the health, comfort and prosperity of the human race. The number of pages in three recent *Zoological Records* devoted to the Insecta was 317 out of 844 in 1924, 421 out of 1021 in 1925, and 464 out of 1119 in 1926, or an average of just over 40 per cent.; but perhaps the most important reasons for the change are:—1. The narrow outlook caused by specialisation makes it no longer possible for Zoologists who are not Entomologists to understand the needs of the latter. 2. The many problems peculiar to Entomology make rules and regulations necessary which are not acceptable to Zoologists in general. 3. The necessity of getting the approval of various intermediate bodies before Entomological matters can be brought to the notice of the Zoological Congress is far too cumbrous and occupies far too much time. The skeleton of a scheme for Entomological self-government is present in the National and International Committees of Entomological Nomenclature and the triennial Entomological Congress, and it only remains for Entomologists unanimously to demand the right to manage their own affairs, when a workable arrangement would soon be forthcoming for dealing sanely and expeditiously with all questions affecting the science of Entomology.

4. *Literature and Records.* Various points in regard to literature have already been mentioned, and it is not proposed to repeat them here. The difficulty of

getting Entomological work published has been met in the past by various means—private generosity, the formation of societies, the founding of magazines, public subscription, etc.—and it might well be thought no other means could be suggested. It must not be forgotten, however, that the market for such literature is an expanding one, and will probably (at least for certain classes of work) soon become large enough to make publication a commercial success. I look forward to the time when some of the larger Entomological institutions will do their own printing and publishing. The possibility of exchanging books so published for others printed elsewhere would help them in that difficult problem of maintaining the efficiency of their libraries. Nevertheless the Library problem is one which will not be solved by such means alone. When one thinks that in London there are at least six (probably more) institutions independently collecting Entomological literature, many of them struggling to obtain as complete a library as possible, it is obvious that such a multiplication of Entomological libraries is quite unnecessary, and that sooner or later these institutions must realise that they are trying to do what is beyond their power and recognise the necessity of coming to some mutual arrangement for a division of the burden. If even only the three or four principal societies dealing with Entomology came to such an arrangement it should be the means of acquiring for this country a far more complete library of Entomological works than is at present possible. Each society would then aim at a greater completeness in some particular section of Entomological literature, leaving the rest to the other societies. Some system of inter-affiliation tickets would of course be necessary to enable Fellows of the different societies to have access to each section of the library, but this should not be a difficult matter to arrange.

In regard to Records, the necessity for publishing some collected record of each year's work became apparent early in the history of Entomology, and various publications of this nature have appeared. The one which has proved of the greatest value (*The Zoological Record*) was founded in 1864. It covers the whole field of Zoology, but does not go far beyond giving the titles of papers and the names of new genera and species arranged systematically. There are other publications such as the *Review of Applied Entomology* and *Biological Abstracts*, which attempt short résumés of such papers as come within their scope. A further extension of this work of recording is, however, urgently required in the publication every few years of an index to the new genera, and a classified index to the references to species (new or otherwise) and their synonymy, published during that period. A matter of still greater urgency is the compilation and publication of catalogues for those groups for which no up-to-date catalogue exists, or the completion of unfinished catalogues such as that of the Diptera of the World. Here again this appears to be the sort of work a central international organisation might undertake.

5. *Entomological Institutions.* The first step towards the establishment of Entomological societies was, without doubt, the arrangement made by Entomologists to meet periodically at each other's houses for mutual help in the identification of their captures. This led on to the idea of some co-operative effort in the purchase of Entomological books and the publication of the results of Entomological research by pooling a number of individual annual subscriptions. Many societies in addition formed collections of insects and a few still retain them, but in most

cases the housing difficulty became too great and they were handed over to Zoological museums. It was probably inevitable that existing museums should be considered the proper place for Entomological collections, but it was nevertheless an unfortunate arrangement in many ways. Entirely separate buildings ought to have been provided, preferably in the country, where there would have been greater room for future expansion, better facilities for breeding experiments and a better working light, while the National Entomological Society should have been accommodated with rooms in the same building. There will be, no doubt, considerable future developments in Government Departments dealing with Entomology owing to the recognition of the importance of Entomology from the national standpoint, but I am afraid nothing in the nature of the scheme outlined above. A collateral development will be the gradual commercialisation of the science by a large increase in the number of paid Entomologists. These developments, unless directed by men of outstanding ability and vision, may seriously delay the completion of the task of insect classification by tending to accord priority to national and personal considerations when they clash with the interests of the science. Under the circumstances it might reasonably be thought that the outlook for the future of voluntary societies is not a promising one. This will be true, more especially of National Societies, if they do not realise the altered conditions of the times. The work of local societies is, or should be, still of a local nature; they should work in close co-operation with local museums. This is quite possible because local museums are usually free from hampering Government restrictions and red tape. Their chief work, as I have already mentioned, should be the collecting and working out of the fauna of the particular area of country allotted to them, while it is very advisable that they should be linked up in some way with the National Society. The work of the latter, on the other hand, is one which must be much wider in scope. The holding of meetings with exhibits and discussions and the publication of Transactions and Proceedings is no longer sufficient; they must become in addition organising bodies. The point has been reached when, without organisation, without co-operative effort—international co-operative effort—to deal with the problems that have arisen, there will be little or no further advance in Entomological taxonomy, or the work which may be done will only add to the existing confusion. I believe it to be the duty of National Entomological Societies to design new machinery for tackling these problems and to work out some scheme of an international organisation—an international Bureau of Entomology—to which all Entomologists may look for information, guidance and help. A well-thought-out scheme of this nature would solve many of the difficulties I have brought to your notice. Such an organisation would form the seat of Entomological government. There is no reason why it should not be made compulsory to deposit with such a Bureau a copy of every Entomological publication before it shall be considered "published," according to the "Rules of Nomenclature," with the result of great simplification in the compilation of Entomological records. A Bureau of this nature properly established and conducted would be worthy of world-wide financial support. At the last International Entomological Congress, Dr. Walther Horn, of Berlin, sketched out the framework of some such organisation and a Committee was appointed to inquire into the feasibility of the scheme. It should be the duty of every National Society to make arrangements to consider his proposals in detail so that general agreement may result at the next Congress in 1932.

Just a few words on this comparatively recent example of Entomological organisation—the "International Congress"—and I have finished. Its birth in 1910 was proof that the desirability of according opportunities for personal intercourse between Entomologists of different nations was recognised many years ago. This was quickly followed in 1912 by arrangements for a small measure of international co-operation, but all such arrangements were unfortunately upset for thirteen years by the unhappy outbreak of war. The value of the Congress has been proved—if proof were needed—by the success of the two recent meetings in 1925 and 1928. One cannot help thinking, however, that sufficient use is not made of the unique opportunity for discussion on certain outstanding controversial points in the hope of arriving at some common ground of agreement. It would be an immense help if papers could be printed before, and circulated at, the Congress; many of them could then be taken as read, thus giving more time for discussion and consideration of the points raised in the papers. There are large possibilities for good in the Congress, and the next one to be held at Paris in 1931 is likely to be of outstanding importance.

In presenting this brief review and criticism of the existing organisation in Entomological affairs I am aware that the subject is one which has little or no attraction for the majority of Entomologists. They are much more interested—and who would not be?—in the wonders of nature as exhibited in insect life. The future of Entomological science, however, is undoubtedly becoming more and more dependent upon efficient organisation, and we must never forget that, because we are pledged as Fellows of this great Society to do all in our power to further the interests of that science, it becomes our duty to consider, discuss and formulate proposals which may lead to greater efficiency in Entomological work.

The last few minutes of my occupation of the Chair as your President are passing away, and I intend to make use of them in a final pleasant duty of expressing my thanks, in the first place to the Officers and Council of the Society for their loyal support and co-operation in the management of the affairs of the Society during my two years of office; in the second place to you and other Fellows for the courtesy and consideration you have displayed at all the meetings over which I have presided. In extending a hearty welcome to the distinguished Fellow whom you have honoured by choice as my successor, my best wish for him is, that his period of office may prove as happy and pleasant a memory as my two years will always remain to me.

# INDEX

OF THE

# PROCEEDINGS OF THE ENTOMOLOGICAL SOCIETY OF LONDON

## VOL. III (1928)

## A

*abietis*, *Hylobius*.
*Acanthaspis*, **9.**
*Acanthomyops* (*Chthonolasius*) *umbratus*, in Windsor Forest, **12.**
*acerata*, *Acraea*.
*Achilixius*, **22.**
*Acraea*, migration of, in Uganda, **87.**
*Acraea acerata*, distasteful to chamaeleon, **53.**
*Acraea alciope* ♀ f. *aurivillii*, in Uganda, **6.**
*Acraea jodutta*, in Uganda, **6.**
*Acraea pharsalus*, eaten by birds in E. Africa, **91.**
*Acraea vinidia* (see *A. acerata*).
*Aëdes argenteus*, hatching of eggs of, **35.**
*Aegeria ferox*, sp. n., mimicking an Ichneumonid in Uganda, **54.**
*Aegeria flaviventris*, **51.**
*Aegeria formicaeformis*, **51.**
*Aegocera rectilinea*, mimicking grasshoppers in E. Africa, **49.**
*affine*, *Anthidium*.
Africa, East (*see* Kenya and Uganda).
Africa, South, *Telmatogeton sancti-pauli* in, **36.**
*africana*, *Megauchomyia*.
*aganice*, *Planema*.
*agathina*, *Mylothris*.
*Aglais urticae*, **68.**
*Agrias* spp., from Colombia, **72.**
*albicincta*, *Laxenecera*.
*albilabris*, *Ceratina*.
*albimaculata*, *Amauris*.
*alciope*, *Acraea*.
*alcippus*, *Danaida chrysippus*.
*Allocormodes kolbei*, living larvae of, from Nairobi, **11.**
*Alucita niveodactyla*, at sea, **64.**
*Amauris albimaculata*, **17** ; eaten by birds in E. Africa, **91.**
*Amauris echeria*, **17.**
*Amauris hecate*, scent-brands of, perforated by ants, **10.**
*Amauris niavius dominicanus*, **17** ; eaten by birds in E. Africa, **91.**
*analampra*, *Maniola lycaon*.
*Anastatus pearsalli*, thelyotokous reproduction of, **42.**
*Andrena*, pollinating orchids, **10, 61.**
*Andrena andrenaeformis*, **51.**
*Andrena trimmerana*, visiting *Ophrys fusca*, **11.**
*andrenaeformis*, *Andrena*.
*angulosa*, *Phyllodonta*.
*angustus*, *Dromius*.
*antaeus*, *Cocytius*.
*Antennophorus uhlmanni*, on workers of *Uropolyaspis hamuliferus* in Windsor Forest, **12.**
*Antheraea yamamai*, adaptation to prevent inbreeding in, **20.**
*Anthicus fairemairei*, habits of, **81.**
*Anthidium* spp., probably fertilising orchids, **38, 60, 61.**
*antiqua*, *Orgyia*.
Ants, enemies of, in Uganda, **9** ; damaging *Amauris hecate*, **10** ; mouth-parts of, **28** ; flights of sexual forms of, **65.**
*apicalis*, *Atomia*.
*apiformis*, *Pocota*.
*Apis mellifica*, predators of, at Nairobi, **45** ; comb of, on *Crataegus*, **66.**
*Aplecta nebulosa*, notes on melanism in, **25–28.**
*aptera*, *Biorhiza*.
*arcesilaus*, *Clerome*.
*archibaldi*, *Stichophthalma sparta*.
*arctica*, *Somatochlora*.
*argenteovittata*, *Dirphya*.
*argenteus*, *Aëdes*.
*argiolus*, *Lycaenopsis*.
Asilids, and their prey in Uganda, **9.**
*Atella columbina*, migration of, in Uganda, **87.**
*Atella phalantha*, migration of, in Uganda, **87.**
*Atheta* spp., habits of, in Windsor Forest, **59.**
*Atomaria apicalis*, in Windsor Forest, **59.**
*atratus*, *Euthetus* (*Megapetus*).
*aurinia*, *Melitaea*.
*aurivena*, *Coenina*.
*aurivillii*, *Acraea alciope*.
*aurulenta*, *Osmia*.

## B

*Baoris borbonica*, geographical distribution of, **62** ; genitalia of, **62.**
*Baoris zelleri* (*holli*), geographical distribution of, **63, 64** ; genitalia of, **62.**
*Bapta bimaculata* (*taminata*), all ♀ family of, **18.**
*batavus*, *Chrysophanus dispar*.
Bats, preying on Lepidoptera in Uganda, **53** .
Beans, Runner, wasps attacking, **59.**
*beata*, *Agrias*.
*beatifica*, *Agrias*.

Bees, birds attacking, in Uganda, **74.**
*Belenois*, distasteful to birds, **17.**
*Belenois mesentina*, area of migration of, in E. Africa, **17, 45, 83–87**; at sea, **87.**
*Belenois sabeida*, migration of, in Uganda, **86.**
*Belenois severina*, migration of, in Uganda, **83.**
*Belostoma*, **7.**
*Benna*, **22.**
*Bennaria*, **22.**
*Bertkauia lucifuga*, oviposition habits of, **67.**
*bifasciatus, Psocus.*
*bilunaria, Selenia.*
*bimaculata, Bapta ; Ischnoptera.*
*Biorhiza aptera* f. *terminalis*, **50, 52.**
Birds, attacking Lepidoptera, **17, 36, 37, 69, 91**; attacking swarming bees in Uganda, **74**; opening galls of *Cynips kollari*, **50–52**; behaviour of, when in possession of strong-smelling insects, **92.**
*Blastobasis lignea*, in Ireland, **32.**
*Boarmia repandata*, notes on melanism in, **25–28.**
*boletobia, Atheta.*
*bolina, Hypolimnas.*
*Bombus* spp., parallel colour-variations in, **75.**
*Bombus lapidarius*, nest of, parasitised by *Psithyrus rupestris*, **80.**
*Bombyx trifolii* (see *Pachygastria*).
*borbonica, Baoris.*
*boueti, Charaxes.*
*Bracon hylobii*, **33.**
*brassicae, Pieris.*
Brazil, *Dermatobia hominis* attacking man in, **78.**
*brevicornis, Quedius.*
*briggsi, Ectopsocus.*
British Isles, *Blastobasis lignea* in, **32**; forms of *Chrysophanus dispar* in, **59**; new or rare Coleoptera in, **13, 59**; new or little-known Diptera in, **36, 76**; Lepidoptera in, **13, 14, 68, 77, 78**; parasites of *Pyrameis cardui* in, **68**; epigamic behaviour and pairing of Odonata in, **55–57.**
*bromius, Papilio.*
*brontes, Papilio.*
*buyssoni, Gnathoncus.*

C

*Cabera exanthemata*, habits of, **32.**
*Caecilius fuscopterus*, oviposition habits of, **67.**
*caenis, Cymothoe.*
*caesar, Lucilia.*
*caligata, Libellago.*
*Callambulyx poecilus*, in India, **81.**
*callantha, Rhodoprasina.*
*Calliphora erythrocephala*, delayed mating in, **34.**
*canescens, Nemeritis.*
*cardamines, Euchloë.*
*cardui, Pyrameis.*
*carpini, Saturnia.*
*Catopsilia florella*, migration of, in Kenya, **17.**
*cedreatis, Charaxes etheocles.*
*Celerio euphorbiae tithymali*, distasteful to lizards, **18.**
*cenea, Papilio dardanus.*
*Ceratina albilabris*, probably fertilising orchids, **61.**
Ceylon, larva of Jassid from, **21–23.**
*Chalciope hyppasia*, bat preying on, in Uganda, **53.**
Chamaeleon, *Acraea* distasteful to, **53.**
*Charaxes bipunctatus*, **65.**
*Charaxes boueti rectans*, in Uganda, **6.**
*Charaxes etheocles* ♀ f. *cedreatis*, mimicking *Euphaedra*, **65.**
*Charaxes lacteitinctus*, in Uganda, **5.**
*Charaxes numenes*, **65.**
*Charaxes tiridates*, **65.**
*Charaxes varanes vologeses*, in Uganda, **5.**
*Choleva fumata*, in Windsor Forest, **59.**
*chrysippus, Danaida.*
*Chrysomyia*, producing progeny of one sex only, **42.**
*Chrysophanus dispar batavus*, in England, **59.**
*Chrysophanus dispar rutilus*, in Ireland, **59.**
*Chrysophanus phloeas*, variety of, **77.**
*Chthonolasius umbratus* (see *Acanthomyops*).
*cingulatum, Anthidium.*
*cinnamoptera, Atheta.*
*cinxia, Melitaea.*
*citrofasciatum, Xanthogramma.*
*clelia, Precis.*
*Clerome arcesilaus*, evidence of birds attacking, **37.**
*Clothilla pulsatoria*, oviposition habits of, **67.**
*cluentius, Cocytius.*
*Cnethocampa pityocampa*, adaptation to prevent inbreeding in, **19.**
*coccinella, Dinocampus.*
*Cocytius antaeus*, **77.**
*Cocytius cluentius*, **77.**
*coelestina, Lycaenopsis* (see *L. kollari*).
*Coenina aurivena*, **53.**
*cognatellus, Hyponomeuta.*
*Colias croceus*, **77**; notes on flight of, in England, **78, 79**; apparently courting a ♀ *Gonepteryx rhamni*, **79.**
*Colias edusa*, **70.**
*Colias electo*, migration of, in Uganda, **86.**
*Colletes cunicularia*, visiting *Ophrys arachnitiformis*, **11.**
Colombia, blue species of *Agrias* from, **12.**
*columbina, Atella.*
*commixtus, Papilio rex.*
*concinnum, Homalium.*
*conformis, Cymothoe caenis.*
*consimilis, Helophilus.*
*Coranus reuteri*, Asilid preying on, **9.**
*coryli, Strophosomus.*
Costa Rica, green ♀ of *Mimetica tuberata* from, **11**; notes on *Terias proterpia longicauda* in, **82.**
*Cosymbia orbicularia*, all-♀ family of, **18.**
*Cremastogaster*, **68.**
*Crenis*, migration of, in Uganda, **87.**
*crepuscularia, Tephrosia.*
*croceus, Colias.*
*Cryptonychus*, mimicking Lycid in Uganda, **8.**
*cunicularia, Colletes.*
*cyaniventris, Dermatobia* (see *D. hominis*).
*Cymothoe caenis*, **83**; forms of, in Belgian Congo, **88–91**; forms of, in Uganda, **88–91**; migration of, in E. Africa, **70–72, 88–91.**
*Cymothoe caenis conformis*, **72.**
*Cymothoe jodutta*, in Belgian Congo, **88.**
*Cynips kollari*, birds opening galls of, **50**; notes on galls of, **50–52.**
*cynorta, Papilio.*
*Cypripedium calceolus* (see Orchids).

## D

*dalii, Trichopsocus.*
*Danaida chrysippus*, destroyed by lizard in Teneriffe, **17**.
*Danaida chrysippus* var. *alcippus*, rare in Teneriffe, **17**.
*Danaida* (*Melinda*) *formosa*, *mercedonia*, intermediates between, **31**.
*Danaida morgeni*, **31**.
*dardanus, Papilio.*
*Darthula*, **22**.
*decoratus, Marumba* (*Smerinthus*).
*Deilephila livornica*, in England, **77**.
*delamerensis, Tephrosia crepuscularia.*
*demodocus, Papilio.*
*Dermatobia hominis* (*cyaniventris*), attacking man in Brazil, **78**.
*destructor, Nymphopsocus.*
*Dinocampus coccinella*, all-♀ families in, **42**.
*Diprion simile* (see *Lophyrus pini*).
*Dirphya argenteovittata*, in Uganda, **8**.
*discoidea, Ormosita.*
*dispar, Chrysophanus.*
*dixeyi, Pinacopteryx.*
*domestica, Musca.*
*dominicanus, Amauris niavius.*
*Dorcus parallelopepidus*, in Windsor Forest, **13**.
*Dromius angustus*, in Windsor Forest, **59**.
*duponti, Leptops.*
*Dysdercus*, cannibal habits of, **58**.

## E

*eacus, Macrocneme.*
*eagrus, Eunomia.*
*echeria, Amauris.*
*Echthromorpha variegata*, parasitising Lepidopterous larvae in Uganda, **74**.
*Ectopsocus briggsi*, oviposition habits of, **66**, **67**.
*edusa, Colias.*
*electo, Colias.*
*elgonensis, Teracolus.*
*Elipsocus westwoodi*, oviposition habits of, **67**.
*eltringhami, Mimacraea.*
*Epiplema*, resting attitude of, in E. Africa, **52**.
*Erebia*, notes on species of, found in Styria, **60**.
*Eronia leda*, migration of, in Uganda, **86**.
*erythrocephala, Calliphora.*
*etheocles, Charaxes.*
*Euchloë cardamines*, impressionist colouring of, **4**.
*eumelus, Planema tellus.*
*Eunomia eagrus*, **24**.
*Eupelminus saltator*, thelyotokous reproduction of, **42**.
*Euphaedra losinga inaequabilis*, mimicked by *Charaxes* spp., **65**.
*Euphaedra spatiosa*, mimicked by *Charaxes* spp., **65**.
*euphorbiae, Celerio.*
*Euploea mulciber*, attacked by captive bird, **69**.
*eurynome, Neptis* (see *N. hylas*).
*Euthetus*, ant-like larva of, in Mashonaland, **7**.
*Euthetus limbatus*, mimicking a fossorial wasp in Uganda, **7**.
*Euxoa radians*, cannibal habits of, **58**.
*evagore, Teracolus.*
*evansi, Stichophthalma sparta.*
*exanthemata, Cabera.*
*eximius, Bombus.*

## F

*fairemarei, Anthicus.*
*falksteinii, Nabis* (*Prostemma*).
*fallax, Myrmecophana.*
*Farquharsonia*, **68**.
*fasciatum, Trichogramma.*
*ferox, Aegeria.*
*ferrugineus, Ludius.*
Fiji, sex-ratio of *Hypolimnas bolina* in, **18**, **44**.
*flabellicornis, Tetralobus.*
*flaviceps, Philotarsus.*
*flavicornis, Nephrocerus.*
*flaviventris, Aegeria.*
*flavosignatus, Mimodacne ; Thyreopterus.*
*florella, Catopsilia.*
*fluviata, Percnoptilota.*
*formicaeformis, Aegeria.*
*formosa, Danaida* (*Melinda*).
France, *Maniola lupinus magdalena* in, **3**.
*fruhstorferi, Stichophthalma.*
*fumata, Choleva.*
*fuscipennis, Trissoclunio* (see *Telmatogeton sancti-pauli*).
*fuscopterus, Caecilius.*
*fuscopunctatus, Homorocoryphus.*
*fuscus, Philonthus.*

## G

*Gelechia proximella*, **32**.
*genalis, Bombus.*
*germanica, Vespa.*
*gigas, Lycaenopsis ; Sirex.*
*glossinae, Syntomosphyrum.*
*Gnathoncus buyssoni*, in Windsor Forest, **59**.
*Gonepteryx rhamni*, apparent courtship of, by a male *Colias croceus*, **79**.
*grandis, Megalodacne.*
*Grapholitha servillana*, **51**.
*Greenidea*, **22**.
*guestfalicus, Hyperetes.*
*gundlachia, Terias.*

## H

*haemorrhoidalis, Bombus ; Liris.*
*hecate, Amauris.*
*Heliothis obsoleta*, cannibal habits of, **58**.
*Helophilus consimilis*, new to Britain, **76**.
*Helophilus versicolor*, **76**.
*Hemiphlebia mirabilis*, epigamic display of, **39**.
*Hemiteles* spp., thelyotokous reproduction of, **42**.
*hippomedusa, Erebia medusa.*
*holli, Baoris* (see *B. zelleri*).
*hololeucus, Niptus.*
*Homalium concinnum*, in Windsor Forest, **59**.
*hominis, Dermatobia.*
*Homorocoryphus fuscopunctatus*, at sea, **87**.
*Hoplistomerus serripes*, taken with its model, *Liris haemorrhoidalis*, in Uganda, **7**.
*howqua, Stichophthalma.*
*huegelii, Lycaenopsis.*
*hylas, Neptis.*
*hylobii, Bracon.*
*Hylobius abietis*, Braconid parasite of, **33**.
*Hyperetes guestfalicus*, oviposition habits of, **67**.
*Hypolimnas bolina*, sex-ratio of, in Fiji, **18**, **44**.
*Hypolimnas misippus*, at sea, **64**, **87** ; courtship of, **82**.

*Hypolimnas misippus inaria*, **82**; at sea, **65**.
*Hyponomeuta cognatellus*, genitalia of, **14**.
*Hyponomeuta malinellus*, on apple in England, **14**; genitalia of, **14**.
*Hyponomeuta padellus*, food-plants and habits of, in England, **14**; genitalia of, **14**.
*hyppasia, Chalciope.*

I

*immaculatus, Stenopsocus.*
*inachis, Kallima.*
*inaria, Hypolimnas misippus.*
India, notes on rare Sphingidae from, **81**; unidentified Lepidopterous pupa in, **24**; predacious larva of scorpion fly in, **43**.
*inaequalis, Euphaedra losinga.*
*inquilinus, Lepinotus.*
*instabilis, Pezomachus.*
*intermedia, Maniola lupinus.*
*interrupta, Megalodacne.*
*Ischnodes sanguinicollis*, in Windsor Forest, **13**.
*Ischnoptera bimaculata*, **49**.
*Ischnoptera pitmani*, sp. n., from Uganda, **49**.

J

Jassid, terminal abdominal processes of larva of, **21–23**.
*jodutta, Acraea ; Cymothoe.*

K

*Kallima*, resting attitude of, **69**.
*Kallima inachis*, impressionist colouring in, **4**; resting attitude of, **69**.
*Kallima paralekta*, **69**.
Kamerun, new Cecidomyiid from, **68**.
*kasmira, Lycaenopsis* (*Polyommatus*) (see *L. kollari*).
*kelloggi, Lepidilla.*
Kenya Colony, living larvae of *Allocormodes kolbei* from, **11**; migration of Pierines in, **17**.
*kolbei, Allocormodes.*
*kollari, Cynips ; Lycaenopsis.*

L

*labdaca, Libythea.*
*Laccotrephes*, **22**.
*lacteitinctus, Charaxes.*
*laevana, Atheta.*
*lapidarius, Bombus.*
*lappona, Erebia tyndarus.*
*Larinopoda tera*, in Uganda, **6**.
*laticollis, Atheta.*
*Laxenecera*, preying on *Apis mellifica* at Nairobi, **45**.
*Laxenecera albicincta*, preying on *Ommatius* and *Coranus reuteri* in Uganda, **9**.
*leaiana, Osmia.*
*leda, Eronia ; Melanitis.*
*leonidas, Papilio.*
*Lepidilla kelloggi*, oviposition habits of, **67**.
Lepidoptera, impressionist colouring among, **4**; adaptations to prevent inbreeding in, **18–20**; some methods of collecting, **33**.
*Lepinotus inquilinus*, oviposition habits of, **67**.
*Leptops duponti*, female calcareous puparia of, **35**.
*Libellago caligata*, epigamic display of, in Uganda, **38, 55**.
*Libellago sulphuripes*, **39**.
*Libythea labdaca*, **71**.
Lice (see *Pediculus*).
*lignea, Blastobasis.*
*limbatus, Euthetus.*
*Limenitis sibilla*, variety of, **77**.
*Liris haemorrhoidalis*, taken with its mimic, *Hoplistomerus serripes*, in Uganda, **7**.
*livornica, Deilephila.*
*longicauda, Hemiteles ; Terias proterpia.*
*longicornis, Psocus.*
*Lophyrus pini*, delayed emergence in, **34**.
*losinga, Euphaedra.*
*louisa, Stictophthalma.*
*lubricipeda, Spilosoma.*
*lucifuga, Bertkauia.*
*Lucilia caesar*, predominance of females in, **42**.
*Lucilia sericata*, predominance of females in, **42**.
*Ludius ferrugineus*, in Windsor Forest, **13**; devouring *Pocota apiformis*, **36**.
*lupinus, Maniola.*
*Lycaenopsis argiolus*, **30**; male armatures of, **31**.
*Lycaenopsis coelestina* (see *L. kollari*).
*Lycaenopsis gigas*, sp. n., from India, **30**; male armatures of, **31**.
*Lycaenopsis huegelii*, in India, **29, 30**; male armatures of, **31**.
*Lycaenopsis huegelii oreana*, in India, **29**.
*Lycaenopsis huegelii oreas*, **29**.
*Lycaenopsis huegelii oreoides*, in India, **29**.
*Lycaenopsis kollari* (*kasmira, trita*), in India, **30**; male armatures of, **31**.
*lycaon, Maniola.*
*Lytta vesicatoria, Notoxus monocerus* attracted to dead individuals of, **81**.

M

*Macrocneme eacus*, **24**.
*maculata, Oecia.*
*Maeura oblongifolia*, food-plant of *Belenois mesentina* in E. Africa, **46**.
Malaya, dragonfly devouring Nymphalid in, **37**.
*malinellus, Hyponomeuta.*
*manicata, Megauchomyia.*
*Maniola lupinus*, genitalia distinguishing, from *M. lycaon*, **2**; in France, **1**.
*Maniola lycaon*, genitalia distinguishing, from *M. lupinus*, **2**.
*Maniola lycaon analampra*, genitalia figured, **2**.
*Maniola lycaon intermedia*, **2, 3**.
*Maniola lycaon magdalena*, subsp. n., from France, **3**.
*Maniola lycaon margelanica*, **3**.
*Maniola lycaon najera*, **2, 3**.
*manto, Erebia.*
*margelanica, Maniola lycaon.*
*Marumba* (*Smerinthus*) *decoratus*, in India, **81**.
*Marumba poliotis*, in India, **81**.
*medusa, Erebia ; Nychitona.*
*Megalodacne grandis*, **8**.
*Megalodacne interrupta*, mimetic association with Carabid in Uganda, **8**.
*Megapetus atratus*, a larval form of *Euthetus*, **7**.
*Megauchomyia africana*, **68**.
*Megauchomyia manicata*, sp. n., from Kamerun, **68**.
Melanism, in Lepidoptera, **25–28**.
*Melanitis leda*, evidence of birds attacking, **36**.
*Melanotus rufipes*, **13**.

*Melinda* (see *Danaida*).
*Melitaea aurinia*, variety of, **77**.
*Melitaea cinxia*, varieties of, **67**.
*mellifica*, *Apis*.
*Meloe proscarabaeus*, *Notoxus monocerus* attracted to dead individuals of, **81**.
*Meloe rugosus*, *Anthicus fairemairei* attracted to dead individuals of, **81**.
*mercedonia*, *Danaida* (*Melinda*).
*Mermis pachysoma*, parasitising *Vespa vulgaris*, **66**.
*mesentina*, *Belenois*.
*Mesopsocus unipunctatus*, oviposition habits of, **67**.
*metallica*, *Somatochlora*.
*Microsphinx pumilum*, **77**; larva of, **5**.
*Mimacraea eltringhami*, in Uganda, **6**.
*Mimetica picteti*, **12**.
*Mimetica tuberata*, green ♀ of, from Costa Rica, **11**.
Mimicry, **7**, **8**, **9**, **54**, **65**.
*Mimodacne flavosignatus*, mimetic association with Carabid in Tanganyika, **8**.
*mirabilis*, *Hemiphlebia*.
*misippus*, *Hypolimnas*.
*monoceros*, *Notoxus*.
*Monophlebus*, **23**.
*morgeni*, *Danaida*.
*mulciber*, *Euploea*.
*Musca domestica*, predominance of ♀♀ in, **42**.
*Muscina stabulans*, predominance of ♀♀ in, **42**.
*Mutilla*, **54**.
*Mycalesis*, migration of, in Uganda, **87**.
*Mylothris agathina*, migration of, in Uganda, **85**, **86**.
*Mylothris rubricosta*, all-♂ family in, **18**.
*Mylothris spica*, all-♀ family in, **18**.
*Myrmecophana fallax*, ant-like larva of, in Mashonaland, **7**.

N

*Nabis* (*Prostemma*) *falkensteini*, mimicking a Mutillid in Uganda, **8**.
*najera*, *Maniola lupinus*.
*natalensis*, *Precis octavia*.
*nawaii*, *Pleurotropis*.
*nebulosa*, *Aplecta*.
*nebulosus*, *Psocus*.
*Nemeritis canescens*, thelyotokous reproduction of, **42**.
*Nemoria viridata*, cannibal habits of, **20**, **58**; distance at which ♂ is attracted to ♀, **20**.
*Neocoenyra*, migration of, in Uganda, **87**.
*Neolaparus*, preying on *Odynerus* in Uganda, **9**.
*Nepa*, **22**.
*Nephrocerus flavicornis*, in Britain, **76**.
*Neptis hylas* (*eurynome*), devoured by dragonfly in Malaya, **37**.
New Zealand, epigamic behaviour and pairing of *Xanthocnemis zelandica* in, **56**, **57**.
*niavius*, *Amauris*.
*nidicola*, *Atheta*.
*nigricornis*, *Atheta*.
*Niptus hololeucus*, habits of, **80**.
*niveodactyla*, *Alucita*.
*nochiella*, *Nomophila*.
Nomenclature, Report of the British National Committee on Entomological, 1R–13R.
*Nomophila noctuella*, at sea, **64**.
*notata*, *Osmia*.
*Notoxus monocerus*, attracted to dead Meloid beetles, **81**.
*numenes*, *Charaxes*.
*Nychitona medusa*, **6**.
*Nymphopsocus destructor*, oviposition habits of, **67**.
*nymphula*, *Pyrrhosoma*.
*Nyssia* (*Poecilopsis*), preponderance of ♀♀ in, **18**.

O

Obituary, Aurivillius, C., **58**; Bethell, G., **1**; Carpenter, Hon. Mrs. B., **58**; Dawson, W. G., **12**; Durrant, J. H., **1**; Edwards, J., **70**; Fox, C. L., **58**; Gowdey, C. C., **36**; Hodge, E. G., **35**; Johnson, C. F., **70**; Mathew, G. F., **12**; McConnell, R. E., **12**; Nevinson, E. B., **12**; Nix, J. A., **12**; Woodforde, F. C., **58**.
*obsoleta*, *Heliothis*.
*octavia*, *Precis*.
*Odynerus*, Asilid preying on, in Uganda, **9**.
*Oecia maculata*, **48**.
*oeme*, *Erebia*.
*Ommatius*, Asilid preying on, in Uganda, **9**.
*Omosita discoidea*, in Windsor Forest, **59**.
*Ophion*, **55**.
*Ophrys* spp. (see Orchids).
*orbicularia*, *Cosymbia*.
Orchids, species of, fertilised by Hymenoptera, **10**, **11**, **38**, **60**, **61**.
*oreana*, *Lycaenopsis huegelii*.
*oreas*, *Lycaenopsis huegelii*.
*oreoides*, *Lycaenopsis huegelii*.
*Orgyia antiqua*, adaptation to prevent inbreeding in, **20**.
*orientalis*, *Bombus*.
*Orthetrum sabina*, devouring Nymphalid in Malaya, **37**.
*Osbeckia*, unidentified Lepidopterous pupa on, **24**.
*Osmia aurulenta*, probably fertilising orchids, **61**.
*Osmia leaiana*, probably fertilising orchids, **60**, **61**.
*Osmia notata*, probably fertilising orchids, **60**.
*Otiorrhynchus*, **34**.
*Oxytelus tetracarinatus*, in Windsor Forest, **59**.

P

*Pachygastria* (*Bombyx*) *trifolii*, hibernation of, in egg stage, **70**.
*pachysoma*, *Mermis*.
*pachyspila*, *Tinea* (see *T. uterella*).
*padellus*, *Hyponomeuta*.
*panicea*, *Sitodrepa*.
*Papilio bromius*, migration of, in Uganda, **87**.
*Papilio brontes*, migration of, in Uganda, **87**.
*Papilio cynorta* f. *peculiaris*, **6**.
*Papilio dardanus*, migration of, in Uganda, **87**.
*Papilio dardanus cenea*, proportion of forms of, in S. Africa, **16**.
*Papilio demodocus*, migration of, in Uganda, **87**.
*Papilio leonidas leonidas*, **75**; evidence of bird attacking, **37**.
*Papilio rex commixtus*, **31**.
*paradoxa*, *Pseudopontia*.
*paralekta*, *Kallima*.
*parallelopepidus*, *Dorcus*.

*Parasemia plantaginis*, adaptation to prevent inbreeding in, **20.**
*parvulus, Peripsocus.*
*pavonia, Saturnia* (see *S. carpini*).
*pearsalli, Anastatus.*
*peculiaris, Papilio cynorta.*
*pedicularia, Pterodelia.*
*Pediculus* spp., predominance of one sex in, **18.**
*Percnoptilota fluviata*, **77.**
*Peripsocus parvulus*, oviposition habits of, **67.**
*persuasoria, Rhyssa.*
*Pezomachus instabilis*, thelyotokous reproduction of, **42.**
*phalantha, Atella.*
*pharsalus, Acraea.*
*pherenice, Agrias.*
*Philanthus triangulum*, preying on *Apis mellifica* at Nairobi, **45.**
*Philonthus fuscus*, in Windsor Forest, **59.**
*Philonthus proximus*, in Windsor Forest, **59.**
*Philotarsus flaviceps*, oviposition habits of, **67.**
*phlegyas, Teracolus.*
*phloeas, Chrysophanus.*
*Phryxe vulgaris*, parasite of *Pyrameis cardui* in Isle of Wight, **68.**
*Phyllodonta angulosa*, **53.**
*picteti, Mimetica.*
*Pieris brassicae*, notes on flight of, in England, **78, 79.**
*pigea, Pinacopteryx.*
*Pinacopteryx* spp., migration of, in Uganda, **86.**
*pini, Lophyrus.*
*pitmani, Ischnoptera.*
*pityocampa, Cnethocampa.*
*Planema aganice*, eaten by birds in E. Africa, **91.**
*Planema tellus eumelis*, in Uganda, **6.**
*plantaginis, Parasemia.*
*Pleurotropis nawaii*, thelyotokous reproduction of, **42.**
*Pocota apiformis*, notes on, in Britain, **36.**
*Poecilopris* (see *Nyssia*).
*poecilus, Callambulyx.*
*poliotis, Marumba.*
*Polyommatus kasmira* (see *Lycaenopsis*).
*polyphemus, Telea.*
*Precis clelia*, migration of, in Uganda, **87.**
*Precis octavia* ff. *sesamus, natalensis*, taken *in coitu* at Nairobi, **45.**
*Precis rauana*, in Uganda, **6.**
*Precis westermanni*, migration of, in Uganda, **87.**
*pronoe, Erebia.*
*proscarabaeus, Meloe.*
*Prostemma falkensteini* (see *Nabis*).
*proterpia, Terias.*
*proximella, Gelechia.*
*proximus, Philonthus.*
*Pseudopontia paradoxa*, pupa of, **14.**
*Psithyrus rupestris*, parasitising nests of *Bombus lapidarius*, **80.**
*Psocus* spp., oviposition habits of, **67.**
*Pterodelia pedicularia*, oviposition habits of, **67.**
*Pteromalus puparum*, parasitising *Pyrameis cardui* in Isle of Wight, **68.**
*pulsatoria, Clothilla.*
*pumilum, Microsphinx.*
*puparum, Pteromalus.*
*Pyrameis cardui*, parasites of, in Isle of Wight, **68.**
*pyri, Saturnia.*
*Pyrrhosoma nymphula*, epigamic behaviour and pairing of, in England, **55–57.**

## Q

*Quedius brevicornis*, in Windsor Forest, **59.**

## R

*radians, Euxoa.*
*Ranatra*, **22.**
*rauana, Precis.*
*rectans, Charaxes boueti.*
*rectilinea, Aegocera.*
*repandata, Boarmia.*
*reperta, Atheta.*
*reuteri, Coranus.*
*rex, Papilio.*
*rhamni, Gonepteryx.*
*Rhodoprasina callantha*, in India, **81.**
*Rhyssa persuasoria*, living individual of, **14.**
*rubricosta, Mylothris.*
*rubrobasalis, Pinacopteryx.*
*rufipes, Bombus ; Melanotus.*
*rugosus, Meloe.*
*rupestris, Psithyrus.*
*rutilus, Chrysophanus dispar.*

## S

*sabeida, Belenois.*
*sabina, Orthetrum.*
*sacraria, Sterrha.*
*saltator, Eupelminus.*
*sancti-pauli, Telmatogeton.*
*sanguinicollis, Ischnodes.*
*Sarcophaga*, sex ratio in, **42.**
*Sataspes scotti*, in India, **81.**
*Saturnia carpini* (*pavonia*), adaptation to prevent inbreeding in, **19, 20, 38.**
*Saturnia pyri*, adaptation to prevent inbreeding in, **20.**
*Saturnia spini*, adaptation to prevent inbreeding in, **19, 20.**
*scotti, Sataspes.*
*Selenia bilunaria*, notes on melanism in, **25–28.**
*septemdentatum, Anthidium.*
*Serapias* spp. (see Orchids).
*sericata, Lucilia.*
*serripes, Hoplistomerus.*
*servillana, Grapholitha.*
*sesamus, Precis octavia.*
*Sesia titan*, at sea, **65.**
*severina, Belenois.*
*sexpunctatus, Psocus.*
*sibilla, Limenitis.*
*simile, Diprion* (see *Lophyrus pini*).
*Sirex gigas*, oviposition habits of, **55, 80.**
*Sitodrepa panicea*, habits of, **80.**
*Smerinthus decoratus* (see *Marumba*).
*Somatochlora arctica*, larva of, **43.**
*Somatochlora metallica*, larva of, **43.**
*sparta, Stichophthalma.*
*spatiosa, Euphaedra.*
*Sphex umbrosus*, habits of males of, in Uganda, **9.**
*Sphingonaepiopsis*, **77.**
*spica, Mylothris.*
*Spilosoma lubricipida zatima*, melanism in, **26.**
*spini, Saturnia.*

*spodia, Erebia oeme.*
*stabulans, Muscina.*
*Stegodyphus*, **18.**
*Stenopsocus immaculatus*, oviposition habits of, **67.**
*Sterrha sacraria*, in England, **77.**
*Stichophthalma fruhstorferi*, **15.**
*Stichophthalma howqua*, **16.**
*Stichophthalma louisa*, **15, 16.**
*Stichophthalma sparta*, distribution and races of, **15, 16.**
*Stichophthalma sparta archbaldi*, subsp. n., from India, **15.**
*Stichophthalma sparta evansi*, subsp. n., from Burma, **16.**
*Strophosomus coryli*, preponderance of ♂♂ in, **34.**
*stuarti, Agrias.*
Styria, *Erebia* spp., in, **60.**
*sulphuripes, Libellago.*
*Syntomosphyrum glossinae*, broods of all one sex occasionally obtained in, **42.**

T

*taminata, Bapta* (see *B. bimaculata*).
*Telea polyphemus*, adaptation to prevent inbreeding in, **20.**
*tellus, Planema.*
*Telmatogeton sancti-pauli*, in S. Africa, **36.**
*tenellus, Hemiteles.*
*Tephrosia crepuscularia delamerensis*, melanism in **27.**
*tera, Larinopoda.*
*Teracolus elgonensis*, migration of, in Uganda, **85.**
*Teracolus evagore*, migration of, in Uganda, **85.**
*Teracolus phlegyas*, **46.**
*Teras terminalis*, **50.**
*Terias gundlachia*, status discussed, **82.**
*Terias proterpia* f. *longicauda*, notes on, on *Eupatorium odoratum* in Costa Rica, **82**; status discussed, **82.**
*terminalis, Biorhiza aptera ; Teras.*
Termites, flights of sexual forms of, **65.**
*terrestris, Bombus.*
*tetracarinatus, Oxytelus.*
*Tetralobus flabellicornis*, larva and cocoon of, in Uganda, **73**; termitophilous habits of, **74.**
*Thyreopterus flavosignatus*, mimetic association with Erotylids in Uganda, **8.**
*Tinea* (*Tineola*) *uterella* (*pachyspila*), in E. Africa, **46, 73, 92**; earliest account of, **47–48**; larval habits of, **48, 73**; abundance of, **92.**
*tiridates, Charaxes.*
*titan, Sesia.*
*tithymali, Celerio euphorbiae.*
*triangulum, Philanthus.*
*Trichogramma fasciatum*, thelyotokous reproduction of, **42.**
*Trichopsocus dalii*, oviposition habits, **67.**
*trifolii, Pachygastria* (*Bombyx*).
*trimmerana, Andrena.*
*Trissoclunio fuscipennis* (see *Telmatogeton sancti-pauli*).
*trita, Lycaenopsis* (see *L. kollari*).
*tuberata, Mimetica.*
*tyndarus, Erebia.*

U

Uganda, new Aegeriid from, **54**; migration of butterflies in, **45, 70–72, 83–91**; courtship of *Hypolimnas misippus* in, **82**; *Tinea uterella* in, **46, 73, 92**; notes on *Tetralobus flabellicornis* in, **73, 74**; birds attracting swarming bees in, **74**; new earwig from, **49**; epigamic display of dragonfly in, **38, 55.**
*uhlmanni, Antennophorus.*
*umbratus, Acanthomyops* (*Chthonolasius*).
*umbrosus, Sphex.*
*unipunctatus, Mesopsocus.*
*urticae, Aglais.*
*uterella, Tinea* (*Tineola*).

V

*varanes, Charaxes.*
*variegata, Echthromorpha.*
*variegatus, Psocus ; Zonocerus.*
*versicolor, Helophilus.*
*vesicatoria, Lytta.*
*Vespa germanica*, **76.**
*Vespa vulgaris*, parasitised by *Mermis pachysoma*, **66.**
*vidua, Pinacopteryx.*
*vinidia, Acraea* (see *A. acerata*).
*violacea, Xylocopa.*
*viridata, Nemora.*
*vologeses, Charaxes varanes.*
*vulgaris, Phyrxe ; Vespa.*

W

Wasps, attacking runner beans, **59.**
*westermanni, Precis.*
*westwoodi, Elipsocus.*

X

*Xanthocnemis zelandica*, epigamic behaviour and pairing of, in New Zealand, **56, 57.**
*Xanthogramma citrofasciatum*, in Britain, **76.**
*xanthopus, Bombus terrestris.*
*Xylocopa violacea*, in England, **50.**

Y

*yamamai, Antheraea.*

Z

*zatima, Spilosoma lubricipeda.*
*zelandica, Xanthocnemis.*
*zelleri, Baoris.*
*Zonocerus variegatus*, mimicked by Agaristid in Uganda, **49.**

---

ERRATUM.

Page 9, line 17 from bottom *for* xlviii *read* lxviii.

PRINTED IN GREAT BRITAIN BY RICHARD CLAY & SONS, LIMITED,
BUNGAY, SUFFOLK.

# THE ENTOMOLOGICAL SOCIETY OF LONDON

## THE FELLOWSHIP AND FEES.

Fellows pay an Admission Fee of £3 3*s.* The Annual Contribution of £2 2*s.* is due on the first day of January in each year, and is payable in advance.

All Fees should be paid to the Treasurer, at 41, Queen's Gate, S.W. 7, and *not to the Secretaries.*

Fellows desiring to pay their Annual Contribution through their bankers can obtain an official form of banker's order by applying to the Treasurer.

Fellows whose Contributions for the current year have been paid are entitled to receive the publications of the Society free of charge. Further copies may be purchased at reduced prices by applying to the Librarian.

Forms of application for Fellowship, copies of the Bye-laws and the List of Fellows may be obtained from the Secretaries.

## MEETINGS AND EXHIBITIONS.

Intending exhibitors are required to send in their names and the nature of their exhibits to the Secretaries *before noon* on the day of the meeting, in order that they may be called upon from the chair. Descriptive notes of all exhibits should be handed to the Secretaries *at the same meeting* for printing in the Proceedings. If the lantern is required, 24 hours' notice must be given.

Fellows resident abroad, or who are otherwise unable to attend, are reminded that any specimens, notes, or observations they may send to the Secretaries will be considered by the Council, with a view to exhibition or reading at the meetings of the Society.

## PAPERS AND ILLUSTRATIONS.

Fellows desiring to communicate papers to the Society must send the manuscript of such papers to the Transactions Secretary, Mr. N. D. Riley, Brit. Mus. (Nat. Hist.), Cromwell Road, London, S.W. 7, at least fourteen days prior to the date of the meeting at which it is proposed that such papers shall be read. Authors desiring their papers to be published in the Transactions must submit the manuscript, and proposals for illustrations, if any, to the Transactions Secretary at least fourteen days before the meeting of the Publication Committee at which it is desired such papers should be considered.

Authors proposing to illustrate their papers should communicate with the Secretaries before the drawings are executed. The size of the finished work on plates should be limited to 7½ ins. by 4¾ ins., after allowing for reduction, if any.

Attention is called to the Instructions to Authors issued with Part I of each volume, which may also be obtained at the Office of the Society. Inattention to these regulations may involve an author in considerable expense.

## WANTED.

The Society is willing to purchase volumes or parts of the Transactions for the years 1907, 1908, and 1912.

## MEETINGS

### TO BE HELD IN THE SOCIETY'S ROOMS

41, Queen's Gate, S.W. 7

### 1929.

| | | |
|---|---|---|
| Wednesday, | April | 3 |
| ,, | May | 1 |
| ,, | June | 5 |
| ,, | October | 2 |
| ,, | ,, | 16 |
| ,, | November | 6 |
| ,, | ,, | 20 |
| ,, | December | 4 |

*The Chair will be taken at Eight o'clock.*

## THE LIBRARY

is open to Fellows, and their friends when accompanying them, except during September, from 10 a.m. to 6 p.m., except on Saturdays, when it closes at 1 p.m. On the nights of meeting it remains open until 10 p.m.

## NOTICE

Fellows are informed that they can have their Transactions bound at the following prices by Mr. H. J. Hardy, 68, London Road, Croydon, the Society's bookbinder :

Cloth : old size, 4*s.* 3*d.*; new size, 5*s.*
Buckram : old size, 4*s.* 9*d.*; new size, 5*s.* 6*d.*

PRINTED FOR THE SOCIETY BY RICHARD CLAY AND SONS, LIMITED,
BUNGAY, SUFFOLK.